Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME VII.] NEW-YORK, OCTOBER 25, 1851. [NUMBER 6.

THE
Scientific American,
CIRCULATION 16,000.
PUBLISHED WEEKLY
At 128 Fulton street, N. Y., (Sun Buildings),
BY MUNN & COMPANY.

Hotchkiss & Co., Boston.
Dexter & Bro., New York City.
Stokes & Bro., Philadelphia.
Jno. Thomson, Cincinnati, O.
Cooke & LeCount, San Francisco, Cal.
Courtenay & Wienges, Charleston, S. C.
John Carruthers, Savannah, Ga.
M. Boullemet, Mobile, Ala.
Barlow, Payne & Praken, London.
M. M. Gardissal & Co., Paris.

Responsible Agents may also be found in all the principal cities and towns in the United States.

Terms—$2 a-year—$1 in advance and the remainder in 6 months.

RAIL-ROAD NEWS.

Rails.

We learn by the Railroad Journal that the London and North Western Railroad has recently laid down thirty miles of U rail with a longitudinal wooden sill forming a continuous wooden track. The work was done under the advice of Robert Stephenson, who was at one time the great advocate of the T rail. This is an evidence of a change in his opinion.

A section of the "compound rail" of Mr. Winslow, Troy, N. Y., is on exhibition at the fair at Castle Garden. This rail, we believe, has received the approbation of a great number of our engineers, and sections of various railroads have been laid with it. The only impediment in way of its further extension, we believe, is the greater price of American railroad iron at present, in comparison with that of the English. People may say what they will, but every one wishes to buy in the cheapest market, and when the English railroad iron can be bought in New York for $40 per ton, the American which cannot be produced for less than $50 will not be bought. It is believed that Mr. Winslow will have his rail made in England next year, when it can be sent here and sold at the common price of the English iron, The greater price of labor is the great item of expense, we are told in making the American rail.

Mr. Riddle and Carpets.

Mr. Riddle, our commissioner at the Great Exhibition, in a letter to the Hon. John C. G. Kennedy thus writes about carpets:—

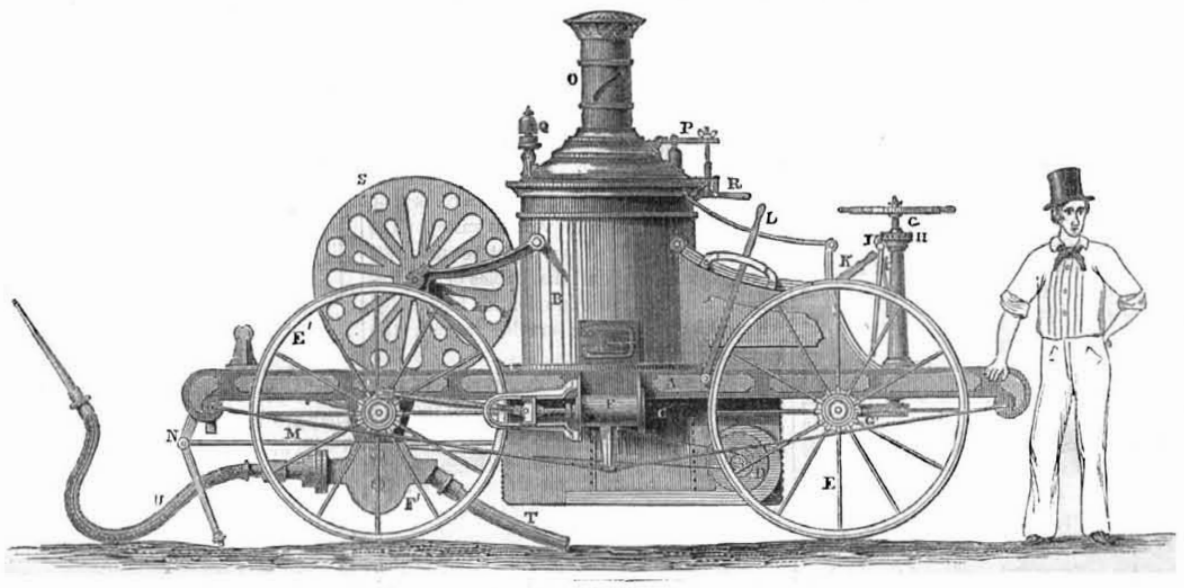
"Mr. Bigelow, of Boston, has given us an important accession of strength in the shape of some specimens of Brussels carpet woven upon power looms. Although various attempts have been made to adapt the power loom to carpet-weaving in England, there never has been any machinery perfected for that object. The loom upon which these carpets were woven has been sometime in use, and upwards of eight hundred hands are now employed in their manufacture. Each loom requires the attendance only of one girl, while, in the ordinary mode of carpet weaving by hand, a weaver is required in addition to another to draw. It is capable of producing four times the quantity in the same space of time as could be woven upon the hand-loom. As many colors can be used in weaving as in the ordinary Brussels carpet, and the specimens show an even and regular thread, far surpassing the productions of the hand-loom."

[Our carpet weavers will see at once how fit Mr. Riddle was for his duties, by being so cleverly posted up on improvements. He is evidently 30 years behind the age.

The Largest Pile of Specie in the World.

According to a recent return in the Bank of France, the specie amounted to 607,000,000 francs, or about $115,000,000. This, we believe, is the largest amount of specie ever collected together. The Bank of England has not had at any time over $100,000,000. In France the legal currency is silver, and not gold.

STEAM AND GAS FIRE ENGINE.



The accompanying engraving is a view of a steam and gas engine for extinguishing fires, invented by Mr. William L. Lay, of Philadelphia, who has taken measures to secure a patent. It is intended to be the fireman's friend by doing the severe work and requiring attendance only. It is so constructed as to propel itself to fires, and to work the pump when there, by the rotary motion which drives the wheels, while the wheels by a contrivance are made to act the part of fly's.

A is the truck frame; B is a strong steam tubular boiler; C is the water tank for supply of boiler, and D is the blower for the fire. E E' are the wheels; F is the steam cylinder, and F' is the pump to throw water on the fire; this pump is a rotary one, and occupies but a small space. T is the suction hose, and U is the discharge hose with the nozzle on the same; G and G' is the steering gear; it consists of a wheel above having a vertical shaft with a pinion on its lower end gearing into a segmental rack to guide the wheels, and make them turn easily. H is a circular head with indentations round it to receive the catch rod, I, which is pressed into the indentations by a spring below, to keep the pinion of the steering apparatus secured from moving as required. K L are levers; P is the balance on the valve; R is the lever for operating the valve of the steam whistle, Q. A is a telescopic smoke-pipe which can be elevated or lowered at pleasure; S is the hose carriage. M N exhibit a combination of levers to raise up the back wheels off the ground when the machine is set to working; to do this the attendant operates the lever, L, which draws back the rod, M, and acting upon the joint, N, lifts forward the support below, which raises the back wheels, F', and holds up the back end of the engine, thereby allowing the wheels to act the part of fly wheels to the crank of the piston rod. The rotary pump has two cog wheels, like Stewart's engine, and they are driven by cog gearing attached to the inside of the axle of the driving wheels—this gearing is not represented, but to those acquainted with mechanical devices, the mere mention of it is enough. The engine is operated by a lever to open the throttle valve in the usual way.

When the engine is standing in the engine house, the boiler always contains a sufficient quantity of water to get up steam, and at the same time is charged with carbonic acid gas by suitable apparatus, until it contains sufficient to work the engine for ten minutes in which time steam can be raised to take its place, when exhausted. The kindling and fuel is laid in the fire box ready to be ignited in an instant. When an alarm of fire is given, the engineer mounts his seat, and by opening the throttle valve, the engine will instantly propel itself in the direction of the fire, while at the same time the kindling fuel is ignited, and the blower being in motion will raise steam in time to work the engine before the gas is used up. When the engine arrives at the fire, by merely choking the fore wheels, and pulling the lever connected with the standards, the hind wheels will be raised from the ground, and act as fly wheels when the rotary pump is put in motion by letting on the steam. The pump will force three or four hundred gallons of water one hundred and fifty or two hundred feet high per minute, which will extinguish any ordinary fire in a very few minutes. It is intended to use two 3 horse-power engines to do the work. The whole will weigh about one and a half tons. The Philadelphia councils are considering the propriety of having one built for the use of the city, and it is probable they will appropriate a sufficient sum for that purpose.

The inventor wishes to sell an interest in the invention to a party or parties who will introduce it into our cities.

The Cause of the Potato Disease.

It is well known that the vines, in the south of Europe, have this year been affected with a disease akin to that of the potato, and the Academy of Sciences, in Paris, has lately been overwhelmed with communications upon the disease under which the vines are suffering. Most of these communications describe in detail the circumstances and peculiarities of this scourge; a few only attempt to account for it. M. Robineau-Desvoidy seems to have discovered the secret. He opposes the theory of the microscopic fungus, and declares that the cause of the malady is a mite or *acarus*, furnished with a trunk, by means of which he extracts the sap destined for the nourishment and growth of the plant. With a powerful magnifier, its eight feet, its head in the form of a beak, its shield, and abdomen, are easily distinguishable. One reason why it has never been discovered before, may be that it has always been sought for upon the affected leaves, and upon the blackened and decaying grapes. These parts, affording no more nourishment to the insect, it leaves them for more succulent localities. It is to be looked for upon fresh leaves, and at the points of their insertion into the stalk. In thus discovering the probable cause of the destruction of the grape vine, M. Robineau explains away the mystery of the diseased potato. He has discovered mites and *acarus* upon the potato as well as upon the vine. He has followed them throughout an entire season, and attributes to them, as to that of the vine, the astonishing devastation which, for the last five years, has accompanied the growth and maturity of the potato. The remedy is now to be discovered. If a microscopic insect is, in truth, the cause of these most destructive maladies, the next point is to prevent its propagation. The investigations of scientific men will now be brought to bear upon this eminently useful field of labor.

A New Feat.---Walking on an Inverted Plane.

By invitation of Mr. Wood, we yesterday had the pleasure of witnessing Mr. McCormick's experiment of walking on an inverted plane. The experiment was a private one only a few persons being present, and was made under disadvantageous circumstances, the preparations being incomplete, and the health of Mr. McC. being somewhat feeble. The experiment, however, passed off to the entire satisfaction of all present. A heavy frame was erected, with a slab of marble nine feet long at the top, the under surface being polished like a mirror. We saw the experimenter mount his platform and adjust his unwieldy boots; then placing both feet against the surface of the marble, he swung himself off with his head downwards. Disconnecting one foot from the slab, and placing it firmly several feet in advance of the other, he continued the alternate movement till he had taken ten steps, and arrived at the other end of the slab. We held our breath during the experiment, expecting, momentarily, that he would fall, but he appeared to walk as safely as a fly runs along the ceiling. After his descent, however, we noticed that he was much exhausted, owing to the excitement and exertion.—[Cincinnati Nonpareil.

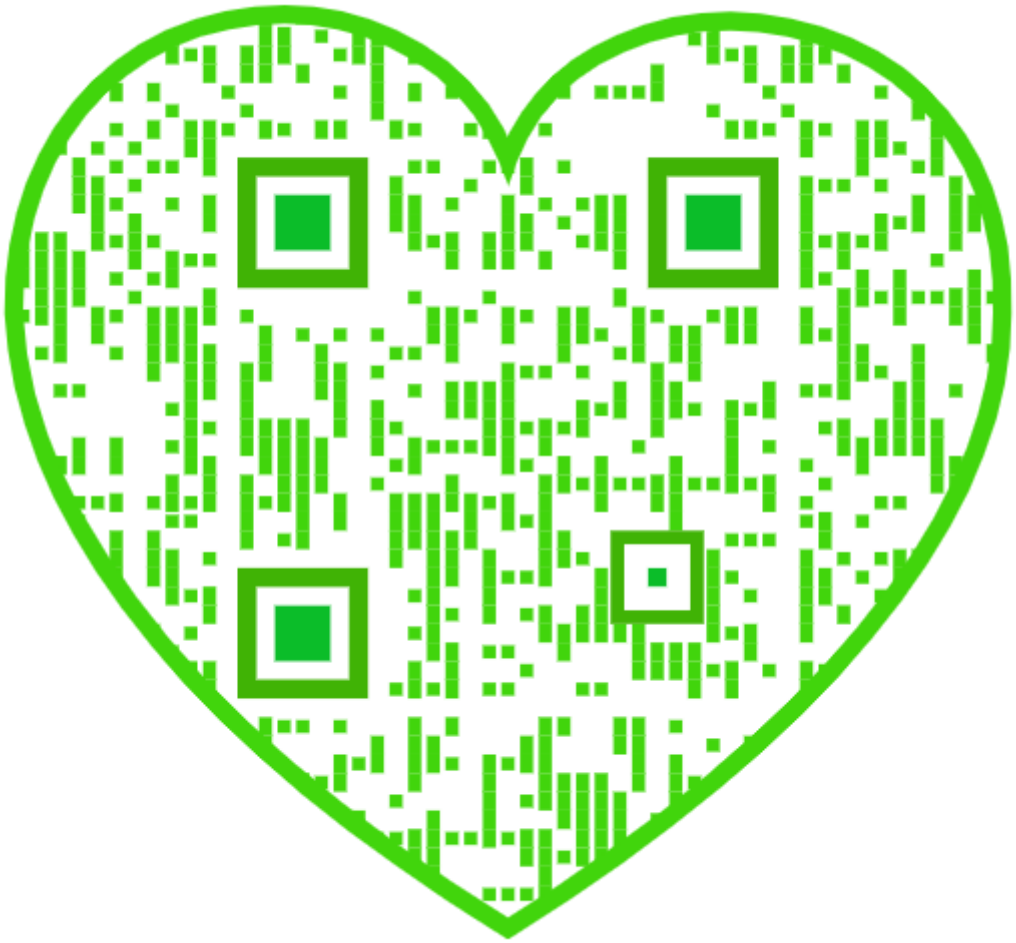
[We will not believe in the above until we see it with our own eyes.

Improvement in Railroad Chairs.

Mr. Peter P. R. Hayden of Columbus, Ohio, has taken measures to secure a patent for an improvement in Railroad Chairs, which consists in forming the chair of wrought flat plate or bar iron, made with convex raised surfaces on its one side, which when the bar is cut to the required length for the formation of a chair, serve to make the lips thicker at or near the roots, when cut and bent, without incurring any extra labor, to give additional strength at those parts.

A railway is to be built in Spain, from Santander, on the Bay of Biscay, to Valladolid. The length is about 140 miles. The line will ultimately be carried forward to Madrid, which capital, by means of a line of steamers from Southampton to the port of Santander, will then be brought in almost immediate communication with London.

© 1851 SCIENTIFIC AMERICAN, INC



MISCELLANEOUS.

The Fair of the American Institute.

[Continued from page 34.]

After noticing some inventions in our last week's number, we referred to six different machines and apparatus on exhibition, which had been illustrated in the Scientific American. We also stated that "we might be able" to dig out more inventions which had been illustrated in our columns. This week we have been able to do so, and shall now add no less than 23 others to our previous list. Those of our friends at a distance, who have not had an opportunity of attending the Fair (if they have the back volumes), will, by our references, be able to learn all about the nature and operation of the said improved machines, &c., and we venture to say they are among the most important articles at the Fair:

1. Machine for Making Bricks.—This is a small working model under the gallery; see engraving in Vol. 2, page 129 of our paper; Culbertson & Scott, proprietors, No. 3 Battery Place, this city. This press will make 25,000 bricks per day. They are in operation in various cities in our country.

3. Portable Steam Engine and Boiler; C. F. Mann, Troy, N. Y.; engravings on page 60, Vol. 3.—This is a very excellent engine, there can be no second question about this. It is working near the bridge.

4. Self-Clearing Anchor; Isaacs & Darling, proprietors, No. 11 Wall street, this city; engravings in Vol. 3, page 22.—This anchor has received the unqualified praise of the underwriters of New York. To be seen on the bridge.

5. Weavers' Harness Machine; Vogel, inventor, R. D. Carver, Matteawan, N. Y., proprietor; engravings in Vol. 4, page 41.—Samples of the work done by this machine are on exhibition in the machine room.

6. Saw Mill Dogs; Adams & Sons, Amherst, Mass; engravings in Vol. 4, page 57.—These dogs are a very excellent improvement. Exhibited in the machine room.

Hose Carriage Improvement; Joseph Pine, this city, patentee; engravings on page 236, Vol. 4.—Twenty of this running gear for carriages have been ordered by this city, and the beautiful Hose Cart at the Fair is placed on one,—patent secured through this office.

8. Cut-Off for Steam Engines; S. P. Winne, of Albany, N. Y., patentee; engravings on page 268, Vol. 4.—This improvement received a Medal at the State Fair of 1850.

9. Straw and Cane Cutter; H. Bertholf, Sugar Loaf, N. Y., patentee; engravings in Vol. 5, page 52,—patent secured through this office. Exhibited on the bridge.

10. Prussian Rifle (Zund Nadel); John B. Klein, this city, agent; engravings on page 124, Vol. 5.—This gun has been introduced into the Prussian army. In a case near the Clerk's desk.

11. Tinsmith's Machine; S. Stow & Co., proprietors, Southington, Conn.; engravings in Vol. 5, page 204. To be seen under the gallery.

12. Clothes' Clasp; F. A. Rockwell, Ridgefield, Conn., patentee; engravings on page 220, Vol. 5.—This Clasp is used for confining files of newspapers, &c., and is one of the most useful of modern improvements.

13. Dick's Anti-Friction Press and Shears; engravings on pages 220 and 229, Vol. 5.—This press has received a council medal, one of the highest awarded at the Great Exhibition. It is the great press. It is in the machine room of the fair.

14. Arch Girder, John Bevan, Patentee, engravings on pages 324 and 329, Vol. 5,—the patent was secured through this office A model of its application on a small bridge is to be seen near the entrance to the Castle Garden at the bridge. We have no hesitancy in pronouncing this a most useful improvement in bridges &c.,

15. Grain Cleaning Machine, Harriss & Sons, Brooklyn, N. Y., engravings on page 385, Vol. 5. For opinions respecting its value, we refer to the page spoken of. It stands in the machine room at the Fair.

16. Ships' Ventilator, Warren Robinson, patentee, engravings on page 36, Vol. 6,—patent secured through this office. This plan of ship ventilation has been applied on the steamships Humbolt and Roanoke. To be seen near the gallery on the left hand side not far from the clerk's desk.

17. Spring Chairs, T. E. Warren & Co., Troy, N. Y., patentees and manufacturers, engravings on page 76, Vol. 6. This chair has been greatly admired at the Great Exhibition. To be seen on the stage at the fair.

17. Atmospheric Churn; Gill & Tillinghast, inventors, Chillicothe, Ohio. See engravings on page 97, Vol. 6.

18. Ships' Lights, Leonard Goodrich, this city, patentee,—patent secured through this office, engravings on page 113, Vol. 6. This is a valuable invention.

19. Raising and Lowering Carriage Tops, Dr. Allen, New Haven, Conn., engravings on page 92, Vol. 6. A carriage near the gallery on the right hand side, has this excellent invention applied to it.

20. Self Rocking Cradle, Daniel Walker, Newark, N. J., maker, engravings, Vol. 6, page 349. To be be seen in various parts of the Fair rocking itself, and it will yet be universally employed to rock all the babies of the Republic; as we advance in scientific knowledge we must have scientific cradles to rock the young sovereigns.

21. Copying Press; A. A. Wilder, of Detroit, Mich., patentee,—patent secured through this office; engravings on page 65, Vol. 6.—This is the most simple copying press in use.

22. Indicator for Steam Engines; W. C. Grimes, of Philadelphia, inventor; engravings on page 410, Vol. 6.—This improved steam and water Indicator is applied to the engine which drives the machinery at the Fair.

23. Last, but not least in prominence, is the Fire Annihilator; engravings on the first page of our present volume.—Three of these Annihilators, very unassuming apparatus, are to be seen under the gallery.

The above improved machines are *fixed facts*, and we refer to the illustrations of them, and where they are described in our columns, in order to present before readers at a distance, indisputable testimony to prove the assertion we have freely made, namely, "the Sci. Am. is the Repertory of American Inventions." There are many improvements exhibited at the Fair which we have noticed in our columns, and many for which patents were secured through our agency. Inventors who have good improvements to present before the public—improvements respecting which they are not afraid of public scrutiny, will, and do, present the same through our columns, for they know that all our continent looks to this as the first source of information on such subjects.

Cooking Ranges and Stoves.—There are a great number of stoves under the gallery, as usual, and very various are they in their modifications. There is no class of men who contest the points of superiority like our stove manufacturers. Their rivalry is of the keenest kind, and their personal feelings oftentimes burst forth in no courtly phrases. We listened to an exciting debate between two stove manufacturers, whose names it boots us not to mention, in which the Commissioner of Patents came in for a scorching rebuke, in which all the bystanders joined with applause.—Among the many stoves, we were highly pleased by Bliss' Jenny Lind Cooking Range, which took the premium at the Rhode Island Fair. Its general contour is handsome, and the casting is good, and the top is constructed in such a way as to prevent its being burned out, thus obviating a very common evil. The form of the fire chamber is a cylinder lined with soap-stone, and known to be the best form of fire chamber in which to burn coal. The front of the range closes tight, with a register in the ash door, to give draught; when closed it makes the range perfectly air-tight; also a new arrangement for dropping the grate from the outside, so that no dust can escape in the room. It is simple in arrangement; it having but one damper, which manages the whole. Also, the convenience for cleaning the flues, and a convenient place to put the coal-scuttle, and a very large oven of capacity enough to bake twelve pies. Also a bath boiler, which can be heated by a side or back flue or a water back. And a new and improved hot air fixture, which will heat a room from 12 to 15 feet square, with the same fire that is used in cooking.

The agents for sale are Messrs. Hull & Kenyon, No. 92 Bowery, this city. Next week we shall make another examination of stoves and notice some others.

American Crystal.—The Brooklyn Glass Works display as beautiful a crystal as can be displayed by any other nation. We believe that the display of crystal at our Fair cannot be surpassed. This is a credit to the Brooklyn Company, for it is not many years since its manufacture was commenced. We have natural resources for the manufacture of crystal, glass, china, and stone wares, far surpassing that of any other nation in the world, and at the Great London Exhibition, the finest sample of sand for glass-making ever seen in England was three barrels, "as white as snow," in the American Department, furnished by T. Gray & Co., Boston, Mass.

Railroad Lamps.—There are two splendid railroad lamps at the entrance into the rotunda. They are well worthy the attention of all railroad companies, for they assuredly are the finest ever exhibited in our country. We understand the New York and Erie Railroad has adopted them on all their engines, and we do not know but many other roads have: if they have not, they should do so as soon as possible, or Russia will get ahead of them. They are manufactured by the inventor, Mr. Alcott, at Rochester, N. Y.

Flax Dressing Machine.—A machine that has attracted a great deal of attention is one for dressing flax, either rotted or unrotted, invented by S. A. Climes, of Springfield, Mass. We examined this machine attentively while in operation upon some very hard unrotted flax. It did its work well. It has a number of peculiarities in respect to its motion. One its fine fluted rollers between which the flax is carried, and which by changing lips below, bites the flax with a creasing action, which effectually separates the textile from the woody fibres. A blower is used for cleaning away the seed below. A couple of machines, the second one acting upon softened flax and employing drawing rollers, would easily reduce the fibres to a fine wool. Much attention is now devoted to the improvement of flax machines, and so far as the spinning of it is concerned, we do not believe but such machinery, specifically adapted to the nature of the flax, may yet be invented so as to work it at least nearly as well as cotton.

Rotary Pump.—There are three rotary pumps at the Fair, viz., Gwynne's Centrifugal, Carey's Rotary, and Stiven's Epicycloid. Mr. Carey's pump we noticed last week, and it has been illustrated in our columns. It meets with a ready sale, and is a good pump. The centrifugal pump of Gwynne has been exceedingly unfortunate, it broke down entirely, and thus far, has demonstrated the contemptible ignorance of the plus centrifugal force theorists. Stiven's pump is a good one. It is the most simple and durable of all the rotary family. We have seen none so peculiarly constructed, nor upon the same principle. The piston is a cylinder or short drum, acting in the inside of the case, another drum. The convex surface acting on the concave, and the motion is so peculiar that it describes a cycloidal curve in rotation. This pump has been advertised in our columns, but we have never yet presented an engraving of it; we will endeavor to do so at some future period. Mr. Stivens manufactures his pumps in this city.

Steam Engines.—It was our intention to say something about steam engines this week, but our brief space prevents us from doing so until next week, when the important improvements will be noticed.

Hoppin's Bronze Mastiff—Erratum.—Mr. Hamilton Hoppin, of the firm of Bogardus & Hoppin, this city, has sent us a note stating that the splendid casting of the St. Bernard Mastiff, noticed by us last week, was not modelled by him, but was designed and modeled by his brother, Mr. Thos. F. Hoppin, of Providence, R. I.—a plaster casting was sent to the firm mentioned above, and a duplicate taken in bronze. We are obliged to Mr. Hoppin for the correction. Our motto is "honor to whom honor is due."

On the evening of Friday, 17th, Dr. Jackson, of Boston, delivered the annual address of the Institute, in the Broadway Tabernacle. It was an able address; we shall give a brief review of it next week.

To Mariners on the Pacific Coast.

Professor Alexander D. Bache, the efficient superintendent of the U. S. Coast Survey, has just presented to the Secretary of the Treasury, a statement of the topography of the principal harbors on the Pacific Coast.

The following are descriptions of Trindad, Humboldt, and San Diego Harbors:

Trindad is a very convenient anchorage, during six months in the year, and will be found, by vessels that have suffered from the strong head (northerly) winds that prevail along this coast, a comfortable harbor of refuge.

Humboldt Bay is the third harbor on the coast; it is sixteen miles long, and from three-quarters to four or five miles wide. The entrance between the breakers is nearly straight but rather along the coast; it is about a mile long, and two hundred metres wide, between the eighteen feet curves on either side, with twenty-one feet, at low water, on the bar. It is perfectly accessible except in very heavy weather.

San Diego affords shelter in all weathers and has deep water, but has a very small outlet. The average tides are six feet. There is a natural break-water called Ballast Point.

Sailing Directions for San Diego.—Vessels in sight of the coast, and approaching San Diego from the north, will observe an opening in the hills, and the appearance of an inland bay. This is the False Port, and must be avoided. Immediately north of the False Port commences a table land about four hundred and fifty feet high, and extending southwardly six or seven miles. The extremity of this table land is called Point Loma, and forms the entrance to the harbor of San Diego.

Those bound from the southward will first sight the group of high, rocky islets called Los Coranados. From thence to Point Loma the course is N. ½ E., and the distance 15 nautical miles. On a clear day Los Coranados will serve as a landmark and guide for vessels coming from any direction.

Steer right through the kelp, giving Point Loma a berth of one half a mile, and in a few moments you will open Ballast Point, a low beach of shingle stones forming a natural breakwater, then round up gradually, until you bring Ballast Point in range with the easternmost house on the Playa, and be very careful not to open more of the village, otherwise you will be too far to the east, and in danger of getting aground on Zuningo Shoal. The breakers show its position. During the summer keep as close to the hills, on the port side, as your draft of water will allow, as you will then be able to lay on the wind right up to Ballast Point. You can carry four fathoms within a ship's length of the point. Keep on the above range, and, when up with Ballast Point, steer direct for the Playa, and anchor as you please.

Cheap Gas in London.

The Secretary of the Gas Consumers Company, at a meeting held at the Yorkshire Stingo tavern, Marylebone, London to take into consideration a proposal for the supply of cheap gas, stated that the new company would engage to supply gas of the best quality at a maximum price of 4s. per 1,000 feet, to limit the dividend to a maximum of 10 per cent., and all other profits beyond 10 per cent. to be applied to the reduction of the price. This price is about one fourth that of New York gas, and its greater cheapness can neither be owing to the price of coals nor price of labor. To be sure some allowance must be made for these, and if we say two dollars for the 1,000 cubic feet, we strike a mark which appears to us to be about the right thing. If economically managed, coal gas might, we think, be supplied to our citizens for about two dollars per thousand cubic feet. If furnished at this price, every private house would use it, and we can well conceive what benefits would accrue to every family. Spirit gas explosions, troublesome dirty oil, and candles would soon get their walking papers. The gas companies would not lose anything, we are very certain, by reducing their prices to such a standard as would bring it within the reach of our working people.

© 1851 SCIENTIFIC AMERICAN, INC

Scientific Memoranda.

GROTTO DEL CANE.—Prof. B. Silliman, Jr., in his European correspondence, thus speaks of the Grotto del Cane, or Dog Grotto, which has so long been famous for its stratum of carbonic acid gas covering the floor:—

"Unfortunately, like some other grottoes, its enchantment disappears on a near view. It is a little hole dug artificially into the foot of a hill facing Lake Agnano. The aperture is closed by a door, and the space within is barely sufficient for one man to stand erect. Into this narrow cell a poor little dog is very unwillingly dragged and placed in a depression of the floor, where he is soon narcotised by the carbonic acid. The earth is warm to the hand, and the volume of gas given out is very constant. Such is the world renowned Grotto del Cane, which, if it did not equal our expectation, at least afforded us the opportunity of some merriment."

NEW PORTABLE HYDRO-ELECTRIC CHAIN BATTERY.—This is a new invention, by a genman in Vienna, consisting of a galvanic battery in the form of a chain, which is contained in a morocco box, the ordinary size of a pocketbook. It contains the metallic combination of a voltaic pile, being composed of copper and zinc wire, wound round grooved pieces of wood, requiring only its immersion for a moment in acetic acid to produce most powerful galvanic action for two or three hours; a reimmersion at the termination of that period continues its power. There is connected with it a small clock-work, which makes and breaks contact in a most perfect manner.

The advantages from an instrument in so small a compass as to be carried in one's pocket, will render it of much importance to the medical practioner. The instruments are manufactured in London, but have not yet reached this country.—[Ex.

Such an instrument will not keep long in order; it will be a fine thing as a toy and that is all.

EXPERIMENTS IN NAVIGATION.—Mr. Watson, a gentleman of fortune, residing in Manchester, England, has lately patented a plan for a revolving sailship, a model of which has been exhibited on the Mersey. The prominent feature of the invention consists in the introduction ot a set of sixteen revolving sails similar in shape to the fans of a windmill. These sails are elevated on a wheel and attached to a spindle. As soon as the wind touches the sails they instantly set the spindle in motion, when, by a simple piece of machinery, a couple of paddles are propelled. The objects attained by the contrivance are, increased speed and the advantage of sailing against a head-wind. Of another invention in which submerged paddles are used, the discovery being due to Mr. Vint, of Colchester, an account has previously been given. Both are claimed to be entirely successful.—[New York Times.

[The first invention described in this extract is something like using a steam engine to pump up water to let it fall on a water wheel. Why not apply the wind to the sails at once? And besides it is not new. We published an engraving of such a method of propulsion on page 113, Vol. 3 Sci. Am. For illustration in respect to the second invention in the above, which is also old, see our history of propellers, Vol. 5 Sci. Am.

SUBMARINE TELEGRAPH.—A submarine wire has been again laid down upon a better plan between France and England.

The great cable which was intended to reach the whole distance proved too short by half a mile, owing to the irregularity of the line in which it was laid down. It was pieced out with a coil of wire coated with gutta percha. This will, however, have to be taken up and supplied with cable. The connection is complete with France, and messages are sent across with perfect success.

AUSTRALIA GOLD.—It turns out that the reported discoveries of gold in Australia are entitled to credit.

BRITISH CLIPPER BUILT SHIPS.—The Chrysolite, a clipper ship, built at Aberdeen, Scotland, by the Messrs. Hall, for the Liverpool and China Trade, has just made the voyage from Liverpool to Anjeer in 80 days. This is the quickest voyage on record. The Oriental made the same passage out in 89 days, and that was without precedent; but, for the present, the Chrysolite has the palm. This ship was built expressly to contest the voyage with the Oriental, and no expense was spared. But the Oriental is now behind the American age, as the Flying Cloud has beaten her far and away.

FRENCH EXPEDITION TO THE DEAD SEA.—At the late annual meeting of the French Academy of Belles-Lettres, M. de Saulcy read an account of an expedition to the Dead Sea, accomplished by him during the early part of this year. The danger and difficulty of travelling in that region is proved to be no greater than in other parts of Arabia Petræa. The first thing that struck M. de Saulcy's travelling party, on reaching the dreaded shore, was a luxurious vegetation. A forest of reeds 28 feet high was thickly populated with birds which skimmed along, and even swam upon the lake. They also found some dead fish upon the banks, which led them for a moment to suppose that the common opinion, that there were no fish in the Dead Sea was erroneous. It is however quite true that no fish can exist in the water, and those found by the travellers must have been washed down by some of the rivers, and have died the instant they touched the salt bitter lake. The deadly emanations commonly believed to exhale from the lake, M. de Saulcy completely contradicts. He found the air delicious. He speaks of numerous interesting ruins, and among them, as he confidently thinks, he was able to identify the sites of Sodom and Gomorrah.

Sacred Geography.

At a recent meeting of the Royal Geographical Society, London, Col. Rowlinson read a very interesting paper on the Identification of the Biblical Cities of Assyria, and on the Geography of the lower Tigris. He explained from the Cuneiform Inscriptions, that the city of Nineveh had occupied a large tract of country on the Tigris opposite Mosul: the tumuli and ruins at Koyunjih, Nebbi Junus, Karamales, and Khursabad, marking the sites of suburbs and palaces belonging to that capital. Nimrud, named in the inscription *Rebekha*, he identified with Reheboth, and showed it to have been a suberb of a neighboring large city of Resen or Alassar (called by Xenophon Lorissa), as Koyunjih and Khursabad had been suburbs of Nineveh. After describing the ruins of Sekherieh, which on various grounds he identified with the Apaniæa of Mesene of the Greeks, he went on to notice the bifurcation of the Tigris. This curious natural feature had been very accurately described both by Pliny and Stephen, and the Arab writers enabled us to connect those notices with the modern geography of the country. The Cauchian plains of Pliny were shown to be the Coche of the Syrians, and Jukha of the Arabs, while the Delos of Stephen was still preserved in the name of Dieleh (quite distinct from Dijleh) which the Bedouins of the present day apply to the dry bed of the Tigris running by the ruins of Wasit. The Tigris had changed its course several times. At the time of the Christian era it was divided into two streams. Under the Sassanians the left hand or eastern branch was alone navigable. In the seventh year of the Hijreh, the right hand, or western branch, was re-opened, while in the fifteenth century of our era, the river took the form which it retains to the present day. The tract of country between the two arms owing to its natural depression, had been always more or less subject to inundations, and boats had passed from Wasit to the Euphrates, along tracts artificially formed for them in the marshes. The character of the country was the same at the present day, and the Tigris, from the tomb of Abdallah Ibu Ali to Kurna, now ran into a channel which was formerly named the Abul Assad canal, and which had been cleared out under the Caliph Mansur, for the purpose of navigation.

Below the confluence of the Tigris and Euphrates, Col. Rawlinson showed that four cities had been successively built, as the sea had retired before the deposit of alluvium, to serve as commercial emporia. These cities were the Havileh of Genisis, Beth Yakina, of the Assyrian inscriptions, Teredon of Nebuchadnezzar, and Obillan of the Sassanians. The increment of land about the Delta could be chronologically traced, and was found, since the commencement of the Christian era, to have taken place at the extraordinary rate of a mile in thirty years. Some account was then given of a famous city, named Taha Dunigas, in the Assyrian inscriptions, which was thought to be Susa itself, and the paper closed with a notice of the two cities on the Haffar canal, which had often been confounded, but which were in reality distinct places.

Sir Roderick Murchinson having been called upon by the president to give an opinion concerning the geological allusions in the memoir of Colonel Rawlinson, said that the elevation of the land along parts of the course of the Tigris, might very probably, as suggested, have deflected that river partially, and have also augmented the rapid increase of the delta of the Euphrates. The continual accession from the remotest historical periods to that delta, as proved by comparing the sacred writings, the Greek, Latin, and Mahomedan historians, and the British surveys of the last and present century, was, he thought of very great importance to geological science, inasmuch as the rate of increase of a mile in thirty years, as deduced by the author, was probably about double the growth of any other delta, including that of the Mississippi. This phenomenon he attributed in part to the circumstance of the mud and sand carried down by the Euphrates and its associated streams, being derived in immense volume from the slightly coherent tertiary formations through which these rivers flow for such enormous distances; and specially to this detrital matter being deposited in so land-locked a body of water as the Persian Gulf, in which, aided by the inset of the tide, the sediment is poured back instead of being swept out by a boistrous open sea. At the rate of increase calculated, the Persian Gulf must be entirely filled up within a period which might be roughly estimated. In reference to any oscillation of land within the historic era, whereby the Tigris and Euphrates may have partially changed their courses, Sir Roderick considered that a very small amount of unequal elevation would occasion a deflection like those alluded to, just as a small rise of land at the south-eastern end of the Caspian Sea had deflected the Oxus, and turned that great river into the Aral Sea. But though these operations seem mighty in the eye of man, they are as nothing in intensity of cause when compared with the great downcast of land by which that great chasm was produced, in which the Dead Sea lies at 1,500 feet beneath the adjacent Mediterranean Sea a feature which he attributed not to any gradual depression, but to a sudden, violent, and extensive collapse of that portion of the earth's crust.

In thanking Colonel Rawlinson for so valuable a communication, on which he added that men of learning rather than geologists should speak, Sir Roderick reminded the meeting how the author formerly indicated that the Havilah of Genesis (Ovillah of the present day), which is now 50 miles from the sea, was the seaport to which the gold was brought in the early days of sacred history, probably from the Malayan Chersonesus.

For the Scientific American.
Cold Water and Burns.

When about 15 years of age, a woman told me if I ever got burned. to plunge the part into cold water. Since that time I have frequently been benefitted by her advice. When burned with a hot iron, I at once immerse the burned part in cold water. A few days since, when forging a small article, I cut a small piece from its end, while red hot, and by mistake, when looking in a contrary direction, I took hold of the anvil cutter with my right-hand thumb and finger, when the small piece of iron I had cut off stuck to the end of my finger; I shook it off, and at once dipped my hand in water and held it there for about one minute, after which I dipped it in spirits of turpentine and put on a cloth; no blister arose, nor was it sore.

I believe that cold water prevents the heat from penetrating into the system, and if it were possible for a person to be sent ten feet through boiling water into cold, as fast as a bullet travels from a rifle, not a blister would be raised. Heat does not travel faster than sound.

I once went to a distant shop to construct a steam gun, and it so happened, the third night afterwards, the shop caught fire. Having some money and valuable tools in a trunk I burst open the door while the flames were rolling high in the room and the heat was so intense that I was forced back to get breath, I again made the attempt and dashing through the flames secured my trunk. When I came out, all the garments I had on were in flames, but fortunately two men were about thirty feet distant, with pails of water, to whom I ran, and requested them to throw their water upon me: this they did, and the result was only a few blisters. If an attempt had been made to tear off my clothes, I might have lost my eyes and perhaps my life. While relating this circumstance to a man a short time since, he said it reminded him of an incident which took place recently over the mountain:—"A mother left her little daughter in the house to go some distance for two pails of water, and before she got back the little girl came running out of the house with her clothes on fire. The mother dropped her pails, when she saw her, and tried to pull off her clothes, and by so doing her own caught fire, and then she ran back to her pails of water. It was too late for her daughter, who died from the injuries, and she herself suffered much. Either of the pails of water, if used at once, I believe, would have saved the child's life.

Incidents of this kind are not unfrequent:—some years since a Member of Congress, at Baltimore, was severely burned, while trying to extinguish his wife's clothes, and I believe she died. In Portland, Maine, a Member of Congress burned his hands so severely as to unfit him for business, by endeavoring to extinguish the flames of the clothes of a girl. Not long since a gentleman of some distinction, in Boston, had his hands burned by a similar accident. Now I believe that in ninety-nine cases out of a hundred, there is water within thirty feet of persons whose clothes take fire (and such cases will always be occurring), and if it were used to extinguish the fire, and to molify the parts burned, it would prevent serious consequences, and believing this, is the reason why I have made the above statements. ELIAS HALL.

Petition for Extension of a Patent.

United States Patent Office.—On the petition of Nathaniel J. Wyeth, of Cambridge, Massachusetts, praying for the extension of a patent, granted to him for an improvement in preparing ice for shipping, for for seven years from the expiration of said patent, which takes place on the first day of December, 1851:

It is ordered that said petition be heard at the Patent Office on Monday, the 10th of November, 1851, at 12 o'clock M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

THOS. EWBANK, Com. of Patents.

Barnum's Equipage.

Mr. P. T. Barnum, at the Bridgeport Fair, showed a new carriage which attracted no small share of attention. It was built somewhat like a chaise, with two wheels, an open top, a single pair of shafts for one horse, with a whiffle-tree on the left side of them, to which a second horse is attached to be rode by a postillion. It is very long, very awkward and very elegantly painted. Its principle recommendations were said to be that it was very heavy and very odd. It had a Spanish name which nobody could pronounce and nobody knew how to spell.

About two millions in gold dust was received from California on last Sunday, per Illinois steamship. We still require great remittances to pay for what has been exported; but there is plenty of gold to dig yet.

The value of the articles exhibited at the Crystal Palace is estimated at five hundred millions of dollars.

© 1851 SCIENTIFIC AMERICAN, INC

NEW INVENTIONS.

Improvement in the Drawing Parts of Carriages, &c.

Mr. Duncan E. McDougal, of Union Village, Washington, Co., N. Y., has invented and taken measures to secure a patent for a very useful improvement in the drawing attachment of carriages, the nature of which consists in the employment of a single trace attached at each end to opposite sides of the animal, and passing round two pulleys attached to the vehicle in place of the whiffletree; the pulleys are also furnished with springs which have a tendency to draw them back towards the carriage or vehicle. The objects of this invention are the equalization of the draft on each side of the animal (one or two in a carriage) especially in turning; and also to prevent sudden straining upon the traces by jerking and quick starting. It will prevent much breakage of harness, and we do not see any difficulty in its application to plows and harrows.

Improvement in Bedsteads.

Mr. L. Newcomb, Jr., of New Bedford, Mass., has invented and taken measures to secure a very novel improvement on Bedsteads. The nature of the invention consists in having two bedsteads connected together—an upper and lower one—and so arranged that the lower one slides underneath the upper one, the said lower one having its foot posts surmounted by clamps which fit or work into recesses cut on each side of the rails of the upper one. The rails of the lower one pass through mortise holes in the lower part of the foot posts of the upper one. By this arrangement, the lower one can be drawn out from the upper when required for use, but when not required it is kept in its recessed position, occupying, but little space, while it is very convenient in many cases where a spare bed is required.

Improved Method of Softening Horn in Comb Manufacture.

Mr. Aaron Cook, of Newtown, in the county of Fairfield, Conn., has invented and taken measures to secure a very great improvement in the heating of horn, &c., during the time of its manufacture into combs, &c. The common method is by having a hot furnace under the articles operated on, or by steam, the latter plan being most common. It is not a good plan for the horn, however, as it acts semi-chemically upon it, and injures its lustre. The improvement consists in employing heated air compressed and directed on the horn by a blower or bellows, so that it will act upon the exact part of the horn to be formed by the dies into the shape desired. This plan is greatly superior to the old modes, inasmuch as there is no chemical action on the horn, and the current of hot air can be directed in intensity as desired upon the particular spot most needed. It is also cheaper in every respect.

Improvement in Machinery for Sawing Timber.

The accompanying engravings represent an improvement in machinery for Sawing Timber, invented by Messrs. Alonzo & William Beswick, of Hornellsville, Steuben Co., N. Y., for which they have taken measures to secure a patent. Figure 1 is a front elevation; fig. 2 an end elevation. The same letters refer to like parts. The nature of the invention consists in a new construction and arrangement of the saw frame, by which the weight used in common sawing mills is dispensed with, and the inconveniences caused by the weight not falling as quickly as the downward motion of the saw, is obviated. A A are parts of the beams of the saw mill. B is a stationary upright post of timber firmly secured to the beams, A, and having its ends shod with steel shoes, *b b'*, which terminate in an edge extending the entire width of the rocking beams. C C', are the rocking beams, they are formed of timber, and are fitted with steel plates, *c c'*, at their centres; across these plates are slight notches which form the centres of the rocking beams, and rest on the edges of the shoes, *b b'*, on the upright post, B. D is the saw; E E are the stirrups, having slots through which the ends of the saw pass and are secured by pins, *e'*; F F are straps of leather or other suitable material, by which the stirrups are attached to the ends of the rocking beams; G G' are straps attached to the opposite ends of the rocking beams and to tension rods, *g g*; the upper part of each is screwed at its end, and the lower one carries a swivel nut, H, which turns freely on its end, and is screwed on the end of the rod, *g'*; this swivel nut keeps the whole in position.

When the saw is attached to the end of the rocking-shaft, C C, the opposite ends are drawn together by screwing the swivel nut, H, on the rod, *g*, which operation tightens the saw, and secures the rocking beams to their bearings, *b b'*. I is a moveable carriage sliding on the upper rocking beam, C, it has a strap, F, which carries the upper end of the saw attached to it by belts and nuts, and carries a screw rod, *i*, which passes through a fixed eye, K, secured firmly to the rocking beam, C. K is a nut screwed on a pin, *i*, at the back of the eye *k*, for tightening or slackening the saw as may be required, to bring the rocking beams parallel. The strap, F, which attaches the saw to the lower rocking beams, also the straps, G and G', are secured to the ends of the rocking beams by bolts and plates, L L' L L', which are guides attached to the beams, A A, for preserving the motion of the stirrups, E E', to keep the saw in a vertical position. M is the end of the connecting rod, which communicates motion to the saw frame from the shaft of the water wheel; it is connected to the frame by two joints, the upper of which allows it to move in a line with the rocking beams, and the lower one in a lateral direction so that the connecting rod may accommodate itself to any direction of the first mover from the centre of motion of the saw frame; *m* is the intermediate link which carries the pins of each joint; *n n* are rods attached by nuts and plates to the lower rocking beam, and are provided with eyes at their lower ends, in which the pins, *o o*, on the intermediate link, *m*, work and form the upper joint. *p p* are cheeks provided with eyes, in which the pins, *o' o'*, work and form the lower joint. The timber is moved to the saw by the common carriage. It will be observed that the rocking beams are so mounted on centres as to produce very little friction, and by the tension rods they are kept parallel between the ends opposite to those to which the saw is attached, and a movable strap of the saw secures it to the upper beam. A universal joint connects the frame and the connecting rod of the wheel shaft, thereby making it particularly applicable to water wheels.

More information may be obtained by letter addressed to the inventors.

Figure 1.

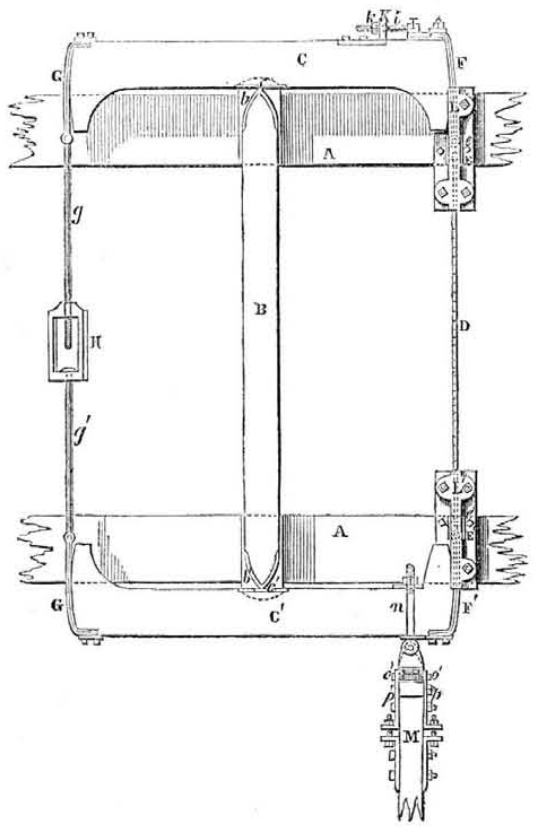
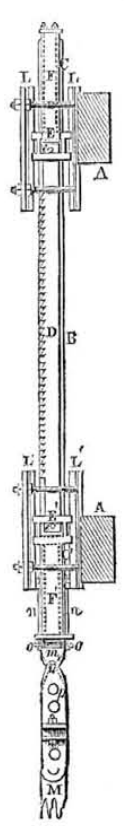
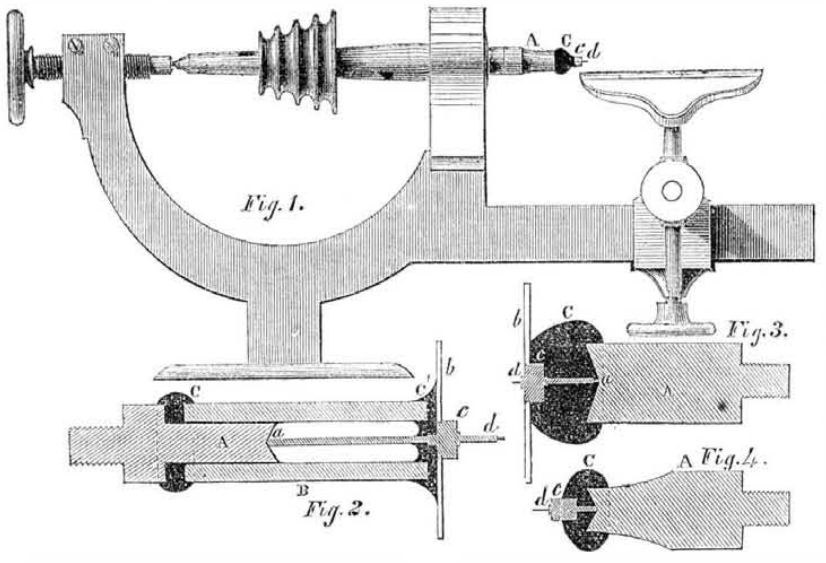


Figure 2.



IMPROVEMENT IN SECURING PIVOTS, PINIONS, &c., OF WATCHES IN CHUCKS.



The accompanying engravings represent an improvement for the purposes stated, for which a patent was granted on the 15th of last July to the inventor, Mr. James M. Bottum, of this city.

Figure 1 is a side elevation of a lathe; Figure 2 is a longitudinal section of the chuck with a pinion and pivot attached in it, and figs. 3 and 4 are also sectional views.

In fig. 1 the watchmaker's lathe of the common form is represented which need not be further described, as the improvement relates to the chuck and its parts. The nature of the improvement consists in employing a chuck with a left-hand centre, on which a tube may fit, projecting over the end of the chuck, and which screws into or is connected with the mandril for making it revolve, and the watch staff or pinion to be operated on being secured to the chuck, which is so constructed, by having adhesive cement filling the left-hand centre of the chuck and the tube, that the usual mechanical means to hold the pieces in the chuck, and sliding puppet, are dispensed with. A is a chuck of any desirable length, with a screw on one end for securing it to the revolving mandril in the usual way. *a* is a left-hand centre, and B, fig. 2, is a surrounding tube (the section views are on an enlarged scale to that of fig. 1) well secured; *b c d* represent a wheel, pinion, and pivot of a watch, shown in proper position for operation in the chuck. C' C are pieces of adhesive cement, (C, fig. 2, to make the tube tight on the centre, and C' to secure the wheel, pinion, &c., in the tube. C C, in figs. 3 and 4, are pieces of the adhesive cement to secure the wheel, *b*, pinion. *c*, and pivot, *d*, in one figure, and only the pinion, *c*, and pivot, *d*, in the other. The claim of the patent is for "the employment of adhesive cement for securing staffs, pinions, &c., of watches or time-pieces for lathe operations, in combination with a chuck, A, sliding tube, and a left-handed centre, as illustrated and described. The engravings represent the position and arrangement of the articles ready for operation. The pivot, *d*, is placed in the centre. and then it is surrounded with the adhesive cement, C, which is made to be easily softened with heat, but hard and solid when cool. The advantages of this method of securing wheels, pinions, and pivots of watches in the chuck, for operation, are very obvious to all those who are engaged in the business. The cement, as the engravings show, presents a large and firm adhering surface, whereby those delicate parts of watch and chronometer work are nicely secured and held in their proper position for correct operation. In this case the true centre is very speedily obtained. The ordinary mechanical devices for retaining such work are dispensed with, and the necessity of having a second sliding puppet centre is obviated. As the pinion or pivot, however small, is firmly held in its place in the chuck, much time, generally consumed for fixing the work by the ordinary mechanical adjustments, is saved. This is also a more simple plan than the old way, and is therefore a saving of expense, while, at the same time, the delicate articles are not so liable to be broken in the securing and working of them. The pivot or pinion thus held can also be operated on by a graver or other appropriate tool by one hand, while the other can hold a powerful magnifying glass at any suitable distance, in place of spectacles, as now employed, for working with the drill bow. The advantages of this simple improvement are of no minor importance to watchmakers and repairers, and we are assured that the rights have met with extensive sale since the invention was patented.

More information may be obtained of the patentee, No. 16 John street, this city.

Ship Propeller Invention.

Mr. M.M. Clark, this city, has taken measures to secure a patent for a new method of making paddle wheels. The blades are placed outside of air and water tight drums, the said drums being boxes surrounding the wheel shafts. The object of this invention is to buoy up the paddle wheels, the air-tight drums being intended to answer the purpose of floats, and for this purpose they are so secured so as to be capable, by the manner in which they are attached to the side of the vessel in flanges, to rise and fall, in other words, have accommodating bearings.

Improvement in Horse Powers.

Mr. T. Sharp, of Albany, N. Y., has taken measures to secure a patent for an improvement in Horse-Powers, the nature of which consists in constructing the endless chain of curved links, with teeth on the outer edge, which gives motion to pinions at or over the one end; the said curved links, on their inner edge, fit on and correspond with the peripheries of the pulleys at either end, to allow the carrying rollers to move in space while travelling over the ends of the frame, where a change of direction in the motion of the chain takes place; this improvement obviates a great deal of friction in the working of the horse-power machine.

© 1851 SCIENTIFIC AMERICAN, INC

Scientific American

NEW-YORK, OCTOBER 25, 1851.

Excitement about Mending the Patent Laws.

Every year about the time of the Fair of of the American Institute, or some other fair, there is always a meeting purporting to be "a meeting of inventors" ostensibly for amending the Patent Laws. As a general thing, these meetings originate, not with inventors, but others who have only political or personal capital in view. Honest inventors get linked into the proceedings by a natural and sincere impulse to use their efforts for the benefit of inventors, by adopting such measures as in their judgement may result in good. Unfortunately for inventors, it has always happened that the men who had most to say and most to propose at these meetings said very little that was sensible, and proposed very little that was practicable.

Last week a meeting of inventors was called at the rooms of the American Institute, and from the names of those who signed the call, we would have expected good results had they anything to do with originating it, but their names were used more for a handle than any thing else, and it was justly observed by one who attended the meeting, "from the very first it was obvious that the meeting was planned, cut, and carved by a few who were not qualified to lead in proposing measures, nor adopting, statesman-like, plans to carry them out." This is true, as the following resolution will show:

"Resolved, That the inventor who may apply his time, his labor, or his capital to the developement and creation of any useful improvement in the art is entitled in equity to an equal right to the fee simple thereof, as is the landlord to the profits of his labor and capital."

This resolution was not passed, but referred to a committee of some cool-headed inventors, among which was not the gentleman who offered it, and thus the credit of inventors was saved for the time being.

In the first place it was nonsense to offer such a resolution, because every inventor has a right to the *fee simple* of his invention by natural right, without any Patent Law at all. Does anybody hinder an inventor from using his own invention and selling it to whom he pleases? No. This is his natural right, and existed before patent laws were enacted. What then is the meaning of such a resolution? It has none in the strict construction of language, but the idea which was intended to be set forth, was, that when a man invented an improvement on a machine, it should be his, and his heirs', executors', &c., exclusively in use and manufacture for ever. That was the idea of the equity, and beautiful equity it would be. Let us take a case; here in New York City a person invents a machine today, and secures it by a patent in this equity style. Six months after this, a person in Illinois, or some other distant State, invents a like machine; he had spent as many years of study, toil, and was at as much expense to bring it to perfection as the other, but previous inventor, and had never heard, nor seen anything about the first machine. Is he not as true an inventor as the other, and upon the principles of equity has he not as good a right to use his machine as the other? Certainly; then, upon principles of equity, our patent laws would be cobwebs. The Patent Laws were enacted to encourage inventions by giving the first inventor an exclusive fourteen years' right and title to his invention, and it is the only true way to encourage improvements in the arts. There are many men who can see defects in laws, but who want the breadth of intellect to provide proper remedies —they are not all statesmen who make speeches and offer resolutions. It is to be regretted that so much is done in the name of inventors, without their authority.

Patent Office Report for 1850.---No. 6.

Machinist's Report.—Whatever changes have been made in the removal of officers by Mr. Ewbank, we cannot tell, except in the one instance of the removal of the late Machinist, A. B. Stoughton, and the supplying of his place by Saml. P. Bell, who, in his Report, suggests that "models should be accessible to all visitors, and particularly to inventors, without the aid of the Machinist." "To carry out the requirements of the Office," he says, "every model of rejected applications, as well as patented inventions, should be placed under glass, distinctly labelled, and classed according to the arrangement adopted in the published reports, and according to their dates." This was provided for in the Act of July, 1836, but has never been carried out, because of a want of room. But why is there not plenty of room? Because the room which legally belongs to inventors is devoted to other purposes. He also suggests that a printed catalogue should be prepared, which would be an advantage to the Office and to inventors; this we think is right; we like Mr. Bell's idea, and we would also suggest that labels be put on the models, or descriptions in the catalogue. For example, on a rejected application, put in the catalogue "rejected because it interfered with such and such patents." This would be a good plan, for then inventors who had been rejected, could at once refer to the contesting models and judge for themselves whether or not the Examiners had good cause to refuse patents. In the Office there are 8,524 models for which patents have been granted, and there are 7,890 of rejected applications—only 634 less than those for which patents have been granted. The way in which models have been treated is a disgrace to the Patent Office and to our country. The patented models are piled upon one another, and the unpatented models are stored up in the west basement of the Patent Office, not open to the inspection of the public, and contrary to the law of 1836. They are rusting and rotting, while, at the same time, 62 cases belonging to the Patent Office designed for models, are used for the collection of the National Institute. This is the way our government has treated and is treating inventors, and self-interested politicians get up meetings to make new laws and abolish old ones, whereas the great and necessary work to be accomplished, and that right speedily, is a Reform of the Patent Office. It was expected that when Mr. Ewbank got in, he would have made some good reforms; the working men expected this, but they now feel disappointed. There were no less than 2,140 models received last year, the great majority of which have been sent to rot in the cellar of the Patent Office. Some of these models cost hundreds of dollars, and at the present moment there are no less than 6,372 of them unprovided with a decent place for show or preservation. Mr. Bell lets out a curious piece of information in reference to models; he says, "models must be regarded as a part of the original records of a patent, and should not be allowed to be removed from the Office; cases have occurred where it was suggested that they were altered after they had been taken out of the Office to be used in Court as evidence in cases of appeal; certified copies, in such cases, would answer the purpose better." We do not give the least credit to any such suggestions; and the remark made about *certified copies* would be an act of gross injustice. Should the certified copy of a model to be taken as evidence in the case of an appeal, when the original is at hand? Is the Patent Office alone pure, and are all applicants rogues? Is it so, that applicants alone are liable to change models, and the Patent Office corps so pure that they, in every case, would give true certified copies of models? No such thing; if we had to trust to the honesty of any party, it would be the applicants. There is room here for suspicion; it is evident that nearly all the corps in the Patent Office look upon applicants as dishonest men—this is the conclusion every man must come to in perusing this Report; and when such a spirit exists, justice will not too often be done to applicants. The corps of the Patent Office wish to carry everything their own way, in Star Chamber fashion, and if such a course of policy was adopted in every case of appeal, the certified copy of the model would be made to suit the ideas of the Examiner who rejected the application. No, no, Mr. Bell, we wish to see no such suggestions carried out in the Patent Office; and we venture to say, sir, they never will.

This concludes our brief review of the Reports of the chief Corps of the Patent Office.

London Great Exhibition---First Prizes---Meat Biscuit.

The premiums awarded are of two kinds. Of the first class medals five have been awarded to the following American citizens:—

To C. H. McCormick, Chicago, Ill., for his "Virginia Reaper."

To David Dick, Meadville, Pennsylvania, for his "Anti-Friction Press."

To Charles Goodyear, New Haven, Conn., for his "India Rubber Fabrics."

To Bond & Son, Boston, Mass., for an "Electric Clock."

To Gail Borden, Jr., Texas, for his "Meat Biscuit."

Respecting three of these inventions, the Scientific American is particularly identified: Dick's press was illustrated in our 5th Vol., and McCormick's Reaper on page 164, of our last Vol., but at this time we wish to direct public attention to the Meat Biscuit discovery. One of the gold medals of highest merit has been awarded to Mr. Gail Borden, Jr., of Texas.

The value of this medal and the importance attached to the articles to which it has been awarded, may be estimated from the fact that only five medals of this class were granted for articles from the United States, and only one hundred and sixty-nine from all the multidudinous profusion of articles exhibited from the four quarters of the globe, at the great Fair in London.

The medals awarded by the Council of Chairmen, to the inventors of the highest practical ability, are of gold, and are styled council medals.

The other medals awarded agreeably to the recommendations of the several juries, without being the subject of discussion in the Council of Chairmen, are of bronze, and styled prize medals.

The patent for this valuable invention, we had the pleasure of securing for Mr. Borden, and the opinion which we have more than once given, respecting its great merits, has been corroborated by the highest council which ever sat in any nation, to decide upon the merits of useful discoveries. Mr Borden has taken an office in this city on the cor. of William st. and Maiden Lane. Not a ship should sail or a voyager leave our port without being provided with his incomparable meat biscuit.

Cheap Postage.

In ships, steamers, telegraphs, plows, printing presses, pistols, reapers, yachts, and in nearly every other useful invention, we are far ahead of England. But there is one most important contrivance in which the English people are far ahead of us, viz., Cheap Postage. Letters are carried any distance, in the United Kingdom, for two cents, and newspapers go *free;* yet an enormous profit is made by the Post Office Department. Even the little West India Island of Barbadoes is ahead of us in postage. In addition to cheap postage on letters, all newspapers, pamphlets, and periodicals, printed in the island, go *free*. Foreign newspapers pay only one cent per copy; and foreign books, magazines, pamphlets, and periodicals, pay only one cent per half pound.

Laws like these are in keeping with the energy and intelligence of a great nation, and why such an acute-minded, go-ahead people, like ours, should have allowed others to get so far in advance of them, is truly surprising. We have hopes that Congress will, this winter, pass a postage law that will meet the wants of the people, and show the world that, in all matters of national advancement, we are still determined to be pre-eminent. What the people want, and what they *will have*, is a two cent postage per half ounce on letters, (all prepaid) for any distance, by land or sea, and a free conveyance of newspapers, and a very cheap postage for magazines and periodicals.

Some people consider that no law should be passed which will render the Post Office Department an expense to the Government: they think that it and the Patent Office Department —the two most important branches of the Government—should support themselves, and pay a profit into the National Treasury. We will not stop to argue this point, for the absurdity of the premises will at once be seen. If the Post Office and Patent Office Departments ought to support themselves, so should the Naval Department—which it might do, in fact, if usefully employed in carrying the mails.

But grant that the Post Office Department should support itself, under the proposed two cent rate it will only require an annual delivery of about four hundred millions of letters. No one, however superanuated in ideas, will venture to assert that this delivery would not very soon spring up, since in England, with a population three millions less than ours, and at the same rates proposed, they already have a delivery of three hundred and sixty-five millions of letters per annum. The Americans are more of a writing people than the English; besides, our families and business are far more widely separated, while, from numberless other reasons, it must be apparent that, under a two cent rate, our correspondence would be more than double that of England, and this would clearly pay all our expenses. Under the two cent rates, our Post Office Department, we believe, would undoubtedly bring into the Government an enormous profit.

By the Postmaster General's Report, of last year, we learn that the gross income of the Post Office Department was $5,552,971 48; the expenses $5,212,953 43. Since that time the Reform Post Office Bill has gone into operation, and we do not know yet in what proportion the incomes and expenditures stand to one another; but we have strong faith in the entire success of the reform. A universal ocean two or three cent postage, and a free newspaper postage, we desire to see first established, if the other should be delayed for some time, but sooner or later the reform must take place, and the truly just rate of postage is the very lowest that will pay all expenses; and here let us say a word to doubters—the business of the Post Office can be so managed as to reduce the expenditures one-third, at least, and this sum can go towards the payment of increased expenditures for transportation.

Large Sales of a Large Work.

"Dr. Webster's Unabridged Dictionary of the English Language," says the Bibliotheca Sacra, "published by Messrs. Merriam, of Springfield, is selling at a rate unprecedented, we believe, for so large a work. Almost 3,000 copies have been distributed among the school Districts in Massachusetts, during the past year, in conformity with an act of the Legislature of the State. The demand from other sources has also increased to the amount of several thousand copies beyond that of the preceding year. Many copies are now sent to distant parts of the world, where the people speak, or are learning the English language, for missionary, commercial, and other purposes. The Dictionary would be an inestimable treasure, not only in every School District, but in every family. Young children may be taught to resort to Webster as the arbiter of disputes, as a safe and satisfactory guide, and as a storehouse of invaluable information. In this respect as well as others, Dr. Webster and his Editor, Prof. Goodrich, are benefactors to the country."

The Fire Annihilators Annihilated.

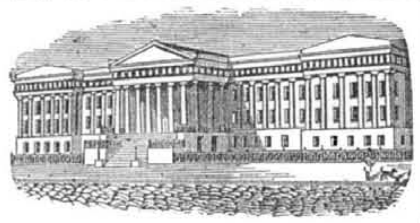
On last Friday morning a fire broke out in the yard of the Novelty Works, in a shop recently erected for manufacturing "Fire Annihilators;" the building was partly destroyed. A section of policemen was in the yard to render aid during the fire. This is rather a bad look-out, that it requires the police to guard the "Annihilators. This accident will prevent the possibility of supplying the demand for these articles for some time. The public, no doubt, will be the gainers.

The Patent Office in Danger.

Mr. J. C. F. Salomon, of Cincinnati, has published an able article in the Washington Daily Union, of the 17th calling upon the one hundred thousand inventors of the United States to exert themselves and save the east wing of the Patent Office from being appropriated by Mr. Stuart, Secretary of the Interior. The Commissioner of Patents, it appears, is in league with him in this work. We will say more about it next week.

By the latest accounts from California, attention was directed to the black sand so abundant in the rivers; it contains a considerable portion of gold, and a cheap method of operation would be a desirable discovery.

© 1851 SCIENTIFIC AMERICAN, INC



☞ Reported expressly for the Scientific American, from the Patent Office Records. Patentees will find it for their interest to have their inventions illustrated in the Scientific American, as it has by far a larger circulation than any other journal of its class in America, and is the only source to which the public are accustomed to refer for the latest improvements. No charge is made except for the execution of the engravings, which belong to the patentee after publication.

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING OCTOBER 14, 1851.

To J. M. Batchelder, of Cambridge, Mass., for improvement in Insulators for Telegraph Wires.

I claim the re-entering angle at or near the base of the cup, as described, for the purpose of giving the wind a direction downwards, thereby preventing the rain that is driven by the wind from entering the cavity of the cup.

I also claim the annular disc or washer, supported upon the centre shank, or rod, and so placed within or at the open or lower end of the inverted cup, as to prevent the free access of wind and rain to the inside of the cup.

I do not claim the mode of imbedding the shank in glass cast around it, but I claim the application of the enamel, or glazing of porcelain, glass, or other vitrified non-conducting material, to a surface of metal, when the same is used for insulating the wires of the electric telegraph.

To Z. C. Robbins, of Washington, D. C., for improvement in Insulators for Telegraph Wires.

I claim my improved insulating supporter for telegraph wires, composed of the supporting and protecting cover, the winged tube, the wire holder, and the insulating segments (two) arranged and combined with each other, substantially in the manner described.

To Hiram Tucker, of Cambridge, Mass., for improvement in imitating Marble.

I claim preparing and applying colors to glass, or other suitable transparent medium, so as to imitate the varied or colored appearance of polished marble or other mineral.

[There may be something about this, new to us, but glass mantel-pieces, to imitate marble, are not new, and marbled glass is anything but new.]

To Wm. H. Brown, of Worcester, Mass., for improvement in Shower Baths.

I claim the manner of hitching and unhitching the bath, for the purpose of suspending it when raised, and lowering it when desired, by means of the hooks, in combination with the looped strap, carrying a pulley arranged and operating in connection with another pulley, substantially as described.

To Geo. Hammer, of Philadelphia, Pa., for improvements in machines for cutting Corks.

I claim the cylindrical crown cutters, substantially as described, formed of an adjustable cylindrical smooth knife, surrounded by a bur cutter, the relative positions being adjustable, and the two being separable for sharpening, as set forth.

To John Nesmith, of Lowell, Mass., and Wesley Sawyer, of Dracut, Mass ,, for improvement in machines for Twisting Fringes of Shawls, &c.

We do not wish to limit ourselves to the special construction and arrangement of parts specified, as these may be variously modified within the range of our invention, by the mere substitution of mechanical equivalents. But we claim the method of selecting from the mass the threads which are to be twisted into separate strands by means of a reciprocating or vibratory finger, or the equivalent thereof, substantially as described, in combination with the first shell and wheel, or their equivalents, substantially as described, for giving the twist to the strands, as described.

We also claim, in combination with the first twister, the employment of the finger or fingers, or the equivalent thereof, for selecting and drawing together the strands which are to be twisted together, to form the fringe, as described; and in combination therewith we also claim the second twisting wheel and shell, or their equivalent, substantially as described.

To Wm. Newlove, of Utica, N. Y., forimprovement in Grinding Mills.

I do not claim the original invention of the crushing cylinder, nor, of a conical cast iron mill for grinding substances. But I claim the mode and manner of feeding the material to be ground, directly from the crushing cylinders through the opening in the cone, C, into the cavity in cone, B, through the four openings therein, as they pass in turn, under the opening in C atoresaid, and thence through the same openings out of said cavity. between the two grinding cylinders, and also the mode and manner of making the said openings, by the introvenient points.

And I also claim the arrangement of the teeth of the outer cone, into two sets, the first section at the smaller end large and coarse, and turned so as to cut against the edges of the corresponding teeth of cone, B, while the other section of teeth, or those towards the larger end, are finer and turned in the opposite direction, so that their backs, and not their edges, are cut and ground upon by the edges of the corresponding teeth of cone B.

To C. H. Beatty, of Wheeling, Va., for improved Door Lock.

I claim the combination in the same lock, of the bolts provided with two sets of diagonal slats, or their equivalents, the slide running at right angles thereto, having pins or their equivalents, and two key notches; and the drops acting as described, by which I make a right and a left hand lock, which must be locked before the key can be withdrawn and which forces the operator to turn the key in a certain but different direction, according as either edge of the lock is uppermost.

To Wm. Kenyon, of Steubenville, O., (assignor to J. P. Haigh, A, Hartupee, and John Morrow), for improvement in machines for making Nuts, Washers, etc.

I claim the compressing and discharging the nut or washer, by means of the follower or hollow piston, the bracket, the cross-head, and the moving die box, constructed and operating substantially as described.

To Robt. Levington, of Monroe, Mich,, for improvement in Axle Boxes, for Railroad Cars.

I claim the sliding partition operated upon by a screw or its equivalent, in combination with the inclined bottom at the inner end of the packing space, condensing the packing more at the inner end of the packing space than at the partition, whereby the oil is prevented from escaping, as well as insuring a constant supply of oil to the journal, substantially as set forth.

To J. L. Parker, of Shirley Village, Mass., for improvement in Water Wheels.

I claim the combination of the curved partition and the air space or passage, with each two buckets, and for the purpose of causing the escape of air from the bucket into the next one in the rear, all substantially as specified.

To Edmund Sheetz, of Campbelltown, Pa., for improvement in Overshot Water Wheels.

I claim the self-acting gates attached to the buckets of an overshot water wheel, in the manner and for the purpose set forth.

To Thos. Slaight, of Newark, N. J., for improved Padlock.

I claim the arrangement of the bolt, tumblers, and springs, as set forth, the tumblers and bolt being operated by the same spring, which also serves the purpose of throwing out the shackle, the tumblers projecting beyond the end of the bolt, for that purpose, all substantially as described.

To Elisha Vance, of Cincinnati, O., for improvement in Stoves.

I claim making, as described, a space between the fire-place and the back oven the terminus of all the flues, and causing the vertical flue between the ovens to be an ascending or descending flue, by means of the register damper, as described.

And I furthermore claim the combination of the first with the second feature, for the purpose and in the manner described.

To Chapman Warner, of Washington, D. C., for improvements in Lamps for burning Vapor of Benzoil, etc.

I claim the generator and lamp described, consisting, essentially, of chambers, long and narrow at their lower extremities, and fitted with pipes, or their equivalents, for the introduction of air, the said chambers communicating, at their upper extremities, with a common reservoir or vapor space, or chest, in which the vapors from the chambers are mingled, prior to burning, and the relative volumes of the inflammable vapors being regulated by the adjustment of the respective currents of air, whereby the regular, proportionate and economical consumption of the fluids is ensured, and an equable light of the requisite intensity and volume is maintained, substantially as set forth.

To Jonathan White, of Antrim, N. H., for improved Furnace employed in Welding Shanks to Tools.

I claim the combination of the groove formed in the brick work above the fire, with the aperture leading thereto, and the reverberatory channel and exit flue, leading therefrom, arranged with reference to each other and the fire, substantially in the manner described, whereby the flames, gases, &c., are caused to act upon both sides of such portions of the blade and shank, as are to be welded to each other, and the other portions of the blade are protected from the heat, substantially as described.

To Gordin Williston, of Charlestown, Mass., for improvement in Air-Heating Stoves.

I claim the air space, the curved chamber, the series of descending pipes (two) and the ascending pipe, in combination with the air space, the chamber of combustion, and ash pit or chamber, all essentially as specified.

To J. G. Webb, of Williamsburgh, N. Y., for improvement in Solar Lamps for burning Lard or Oils.

I claim the combination of the stationary or an adjustable button, with a deflector of metal placed above the base of the flame, attached to any lamp constructed with an argand burner, for consuming lard or crude oil, substantially arranged as set forth.

To J. G. Webb, of Williamsburg, N. Y., for improvement in Argand Gas Burners.

I do not mean to limit myself to the precise shape of the yoke, or to the proportions or size of the parts, as these must be varied according to the amount of draft required for different qualities of hydrogen gas. Neither do I mean to limit myself to the shape of the burner, as long as the argand principle of the inner and outer draft is maintained; and although I have described the cone as constructed at the base of the burner, and slightly larger near the flame, as the best arrangement I have found in practice, yet some qualities of carburetted hydrogen gas, or a difference in pressure in the supply, may require the cone to be parallel to the top, or contracted at the top; I therefore do not limit myself to the exact form shown at the top of the cone, because the variations thus stated are merely practical and contingent, while the main features of the application described, remain substantially the same as set forth.

I therefore claim the construction and use of an argand burner and button, with a cone, to regulate a supply of air to the base of the flame, in combination with an outside draft between the cone and a suitable glass chimney, to complete the combustion and turn the flame over the button, such parts being applied to burning carburetted or similar gas, substantially as described.

To John Yandell, of St. Louis, Mo., for improvement in Insulators for Telegraphs.

I claim casting the glass insulators of magnetic telegraph and other wires of a cylindrical form, with a flange at one end, eccentric with the periphery of the same, its upper part being even with the top, and its lower part dropped slightly below the cylinder and forming the bore of the cylinder, likewise eccentric with the periphery, so as to allow a greater body of glass to form at its lower part than at its upper, where it is slit from its outer to its inner periphery, to allow the insertion of the wire, and inserting the insulator so formed into a horizontal hole, into which the wire is previously introduced through a slit at its side bored through the post, or through a bracket secured on its side, or to a tree, and corresponding with the form of the flange, which fits therein in such a manner as to insulate the wire from contact with the post, and prevent the glass from slipping round, and consequently the escape of the wire from the glass, as herein described, or in any other form substantially the same as described.

DESIGNS.

To Lyman Cobb, of Akron, Ohio, for Design for Stoves.

To C. J. Woolson, of Cleveland, Ohio, for Design for Stoves.

New York Times and the Patent Laws.

The New York Daily Times of the 16th inst., has an article on the Patent Laws, in which some very sensible remarks are made, but some statements are incorrect. It says in respect to examining applications at the Patent Office :—

"Every investigation is made to prevent the issue of conflicting patents; and if the result is less favorable than we would have it, it is to be regretted as a defect in the working of an otherwise fair system. Of late years the errors have been much fewer than formerly."

This is no doubt the ostensible object of investigations, but of late years the errors have just been as numerous as ever, for some examiners investigate upon the principles of caprice not to prevent the issue of conflicting patents. It says again:—

"If there is to be legislation, it should be directed to the protectien of the inventor against the monopolizing tendencies of the capitalist. The theoretical or inventive is unfortunately seldom or never conjoined with practical business habits; and when the deviser of a machine issues from his closet with the product of years of toil, study, and expense, he, in most instances, falls into the hands of speculators, who engross the great bulk of the profits of his invention. If legislation is needed at all, it is needed at this particular era in the history of a machine."

There may be some cases of this kind, but at present we do not know of but one, and that really was the inventor's own fault. It is our opinion that capitalists are rather backward in encouraging new and good inventions, they seem too much afraid of spending money in that line, unless it is on hobbies of ~~their~~ own, and they are generally useless. It says again:

"The patent examiners should decide upon the value as well as the originality of an invention; and refuse protection to unimportant improvements. And some statutory provision should be made to prevent the ruinous litigation to which innocent parties, without notice are subjected; or, what is worse, the exorbitant payments they are obliged to make to avoid the uncertainties, perplexities, and expense of a law suit."

Just think of the Examiners in our Patent Office pronouncing on the value of machines. The person that penned that idea did not know that it is impossible to pronounce on the value of a new machine, and such a power in the hands of the Examiners at the Patent Office, would be like putting a knife into the hands of a Malay to run a muck. Of the four chief Examiners in the Patent Office, it is asserted that there is not a practical mechanic among them; how then could they pronounce on the value of a new machine. Practical mechanics cannot always do so themselves. There are two doctors, one lawyer, and one theoretical engineer, among the chief Examiners.

The second paragraph in the last quotation is worthy of attention. We believe it points to a real and extensive evil which should be corrected, but it does not point it out very clearly. We will do this in some future article. It says again :—

"The day, we apprehend is coming, when the whole system of patent granting will be done away with. The genius of the inventor will be directly rewarded by a bounty from Government, if his invention be of value; and if valueless, it will not have the prestige of a patent to disguise its vanity. We much doubt if the true policy of the public, and of the inventor, too, does not directly point to the abrogation of all protection law."

This policy, although desirable, could never be carried out. There would be so much chicanery, Galphinizing and Gardenizing about such a system that it would be frowned down by public indignation in a few years. The Patent Laws want but little changing to make them as perfect as can be; but a radical reform is wanted in the Patent Office management.

Woodworth's Patent Planing Machines.

The seven Woodworth Machines in the two Planing Mills in Albany, planed, tongued, and grooved during the month of September, three million feet of lumber. This is but about half their capacity. Ninety-nine hundredths of all the lumber planed in Albany continues to be dressed with Woodworth's machines.—[Albany Evening Journal.

© 1851 SCIENTIFIC AMERICAN, INC

TO CORRESPONDENTS.

E. B., of Mass.—You will not infringe on any patent, neither have you produced anything new; see volume 5 of our paper for a number of engravingsillustrating it.

J. P. C., of Vt.—You have never read "Monge's Statics;" we have only to say, that time and pressure must enter into your calculations. No power applied is lost but by friction—resistance. There is no such thing as "swallowing up power by velocity;" pressure and velocity measure power: no more can be obtained by machinery than that applied: you have a wrong idea of what power is—without motion there is no mechanical power.

J. B. S., of ——.—Yes, there is a work for the purpose stated, it is "Practical Mineralogy and Assaying;" it is published by Lindsay & Blackstone, Philadelphia.

J. P. P., of Ala.—A patent would be refused upon the ground that it was a method well-known to chill the surface of various mechanical devices, and was merely an application of a well-known process.

J. Y. S., of Pa.—We do not wish to become interested in your invention; it is a thing we cannot do. The application of iron to cribs could not be patented; if you have a new method of constructing them a patent could be obtained: $1 received.

A. M. P., of Chio.—The principle involved in your combination is essentially similar to Rouse's Patent; there is no doubt of its good qualities.

M. O. G., of La.—In the treatment of saccharine juices so much has been written that we are at a loss to know what would be best for you: practice is what you want as a guide.

H. T. E., of Sandusky City—Your favor of the 4th, enclosing a draft for 35 subscribers, came safe to hand, and each name has been entered for Volume 7. We are very much obliged for so fine a list: it is next to the largest we have received from one place where no agents are located. The rates you have taken are correct, and you can order more as you state.

M. W. H., of Ind.—The application of the spring to the purpose specified by you, could not be patented, and you are advised not to make an application. $2 received.

C. B., of Ohio—Previous to the receipt of your favor of the 7th, we had written you imparting all the information we possessed in the matter of your inquiry.

E. B., of New York—We do not know of a single factory for making the dextrine in this country; we believe it is all imported; we do not know whether it would pay or not—that would depend on the price it could be manufactured for; we could give you information of where to go and find out the selling price.

J. S., of Ky.—Will you be pleased to read Mr. Conger's opinion carefully; he does not state the velocity of the wheel moving with that of the water, but the escaping water; if a wheel moves faster than the entering water, where does its velocity come from? There must be something wrong somewhere; give the subject closer attention in reference to this point.

P. M. I., of Hartford—Acetic acid is the pure acid of vinegar; it occurs, ready formed, in several products of the vegetable kingdom, and is generated during the spontaneous fermentation of many vegetable and animal juices; by real acetic acid is meant such an acid as occurs in a dry acetate; it cannot exist in an uncombined state.

G. McF., of Ct.—A patent was issued to R. Cook for the same device; it is now on exhibition at the Fair, and was illustrated in Vol. 5, Sci. Am.

A. S. B., of N. Y.—Your dollar came duly to hand, and the papers were sent some days since.

W. F. R., of Pa.—Two copies of Minifie's Drawing were forwarded to your address last Thursday week.

M. M., of Wis.—The Commissioner's letter was forwarded to your address on the 11th inst.

E. B. P., of Tenn.—Your subscription is paid up to No. 52: Mr K.'s to No. 26, and the back numbers have been sent. The value of a patented article depends, in many cases, upon the importance of the location, and patentees cannot embrace all this information in the published notice. We have thought of your suggestions before. $5 received.

R. E. J., of N. Y.—Etherine is a peculiar carburetted hydrogen, which has also been regarded as the basis of ether: it was named ethereum by Dr. Kane, and is identical with the etherite of Berzelius. Ether is produced by the distillation of alcohol with an acid: it is sometimes distinguished as sulphuric ether, from the mode of preparing it; but, when well rectified, the ether is the same, whatever acid has been employed.

T. A. C., of R. I.—We overlooked your address; the engine has not yet made its appearance in this section: we shall illustrate it soon.

H. A., of Ill.—The law requires assignments to be recorded in the Patent Office within three months after they are executed; if you have an agreement with the parties they cannot avoid paying you the price specified.

W. H. P., of Pa.—There is no work, that we are acquainted with, upon the teeth of saws, but we have seen some with an angle tooth and a fleam tooth intermediate. Experience is the only true guide in respect to the number of teeth and their form; the form you send is good for a circular saw, and there can be no doubt but for a circular saw, to run in one direction, the common form of teeth is not scientific.

D. W. H., of Ill.—It is not possible for us to understand the description of your Seed Drill; the reason of this is owing to your sketch being so obscure.

L. H., of Pa.—Your arrangement of the drill appears to be good; no model is required when a caveat is filed. The government fee is $20, and goes as two-thirds of the fee when application is made.

C. M. R. & Co., of Ohio—Your letter of the 22nd ult. came duly to hand; the Daniel Planing Machine is not made in this city, and we forwarded your letter to Messrs. Ball & Rice, Worcester, Mass., for attention.

K. E., of N. Y.—We do not know of any sugar refiner like yours; there are, however, several very efficient machines for the purpose in this country. $2 received for the Sci. Am.

L. S, of Wis.—There is a chance for a patent on the "Grinder" if it is new; we can judge on this point much better from a sketch and description, or a model.

Money received on account of Patent Office business for the week ending October 18th.

T. G., of Mass., $20; D. A. B., of Pa., $30; A. L. S., of N. Y., $25; T. S., of N. Y., $50; L. K., of N. Y., $50; S. R., of Md., $30; J. C. S., of N. Y., $40; W. W. V., of Md., $73; L. C., of Ct. $30; W. H., of Wis., $10; J. P. H., of N. H., $30; J. D., of Pa., $30; R. A. S., of Ky., $20; C. H., of Pa., $20; C. & McD., of Pa., $50.

Specifications and drawings belonging to parties with the following initials have been forwarded to the patent office during the week ending Oct. 18th.

T. G., of Mass.; L. N., Jr., of Mass.; T. S., of N.Y.; A. L. S., of N. Y.

We have some communications so long and tedious that we shall require a fee for reading and attending to them. Parties who furnish pages and pages of manuscript, expecting us to attend to them, must afford us proof that they value the labor of others.

Back Numbers and Volumes.

In reply to many interrogatories as to what back numbers and volumes of the Scientific American can be furnished, we make the following statement:

Of Volumes 1, 2 and 3—none.

Of Volume 4, about 20 Nos.; price 50 cts.

Of Volume 5, all, price, in sheets, $2; bound, $2,75.

Of Volume 6, all: price in sheets, $2; bound, $2,75.

New Edition of the Patent Laws.

We have just received another edition of the American Patent Laws, which was delayed until after the adjournment of the last Congress, on account of an expected modification in them. The pamphlet contains not only the laws but all information touching the rules and regulations of the Patent Office. We shall continue to furnish them for 12 1-2 cents per [illegible]

Patent Claims.

Persons desiring the claims of any invention which has been patented within fourteen years, can obtain a copy by addressing a letter to this office;—stating the name of the patentee, and enclosing one dollar as fee for copying

Postage on Books.

Subscribers ordering books or pamphlets through us are particularly requested to remit sufficient to pay postage, or we cannot attend to their orders. We are obliged to pay from 10 to 50 cents every time a pamphlet or book is sent by us through the post, and the justice of our demand is made apparent.

On Sending Receipts.

It is not generally understood that it is in strict violation of the Post Office Laws of this country to enclose in the paper a receipt for money on account of subscription: such being one of the restrictions with which publishers have to contend under our present odious Postal Laws, we hope our patrons will excuse us for not granting their request to send receipts in defiance of law, but consider their money has come to hand providing the paper comes to them regularly: our custom being never to continue the paper after the time for which it was prepaid has expired.

ADVERTISEMENTS.

Terms of Advertising.

One square of 8 lines, 50 cents for each insertion.
" 12 lines, 75 cts., " "
" 16 lines, $1,00 " "

Advertisements should not exceed 16 lines, and cuts cannot be inserted in connection with them at any price.

American and Foreign Patent Agency

IMPORTANT TO INVENTORS.—The undersigned having for several years been extensively engaged in procuring Letters Patent for new mechanical and chemical inventions, offer their services to inventors upon the most reasonable terms. All business entrusted to their charge is strictly confidential. Private consultations are held with inventors at their office from 9 A. M., until 4 P. M. Inventors, however, need not incur the expense of attending in person, as the preliminaries can all be arranged by letter. Models can be sent with safety by express or any other convenient medium. They should not be over 1 foot square in size, if possible.

Having Agents located in the chief cities of Europe, our facilities for obtaining Foreign Patents are unequalled. This branch of our business receives the especial attention of one of the members of the firm, who is prepared to advise with inventors and manufacturers at all times, relating to Foreign Patents. In the item of charges alone, parties having business to transact abroad, will find it for their interest to consult with us, in preference to any other concern.

MUNN & CO., Scientific American Office,
128 Fulton street, New York.

WE HAVE FOR SALE, a bound set of the London Patent Journal; consisting of the first 10 volumes. It is a valuable work for the Inventor, Mechanic, or manufacturer. The last Volume comes up to near March 29, 1851. Price $30.
MUNN & CO.

Foreign Patent Office.

MESSRS. MUNN & CO. transact business connected with Patents in all European countries, where this species of property is recognized. They take pleasure in referring parties to Smith Dunning, Jr., N. Y.; Ebenezer Barrows, N. Y.; Charles Starr, Bible House; William Van Anden, Poughkeepsie; Mortimer & Gardiner, Charleston, S. C.; William Bushnell, N. Y.; J. S. Prouty, Geneva, N. Y.; Gail Borden, Jr., Galveston, Texas, and to all others for whom they have done business.

PATENT FELLY MACHINE.—This machine, for cutting fellys for wheels, is superior to anything of the kind for that object; with it, cutters are used instead of saws, and are easily adjusted to produce any required circle, in common use, leaving them perfectly smooth, thereby making a great saving of expense in dressing them for use. This machine was patented in 1850. For machines, or county and State rights, address JOSEPH ADAMS & SON, Amherst, Mass.; J. B. Wynne, Agent for the State of S. C. P. S.—Agents wanted to travel in Southern and Western States, to sell rights for the above machine. Good references will be required. 6 4

POST'S PATENT SLIDING DOOR FRONTS—For Stores and Public Buildings; a new, cheap, and simple fixture for securing store fronts, which renders them fire and burglar proof, has been invented and patented by the subscriber, who is now prepared to sell rights. Messrs. Quarterman & Son, 114 pohn st., N. Y., are general agents. Address (post paid) Wm. POST, Architect, Flushing, L. I. 6 3m

ALCOTT'S LATHES.—I would say, in regard to the Alcott Lathe I purchased of you about a year ago, that it will perform all that it is represented to, and could I not get another I would not take $50 for it, so that you need not be afraid to recommend them. F. R. BARTLETT.
Galesburg, Ill. 2tf

TILTON's Patent Violin.—The undersigned having patented his Violin Improvement, is prepared to exhibit it to the public. Being now in New York, he may be found at No. 18 Park Place (Mr. J. Wiley's), where he will be pleased to see such gentlemen as take an interest in his invention. All communications addressed "Wm. B. Tilton & Co.," as above, or at Carrolton, Pickens Co., Ala.
3 12* WM. B. TILTON.

LEROW & BLODGETT'S PATENT ROTARY SEWING MACHINE.—The undersigned, having purchased the right to use, sell, and manufacture these machines for the States of Alabama and Mississippi, and their other business engagements preventing them from giving it their personal attention, they are disposed to sell out their right to the above-mentioned States, or counties in them, if preferred, upon favorable terms. To an energetic and industrious man we will sell upon such terms as will insure a large and handsome profit. Apply to Mr. W. SCRUGGS, of the firm of Messrs. Scruggs, Drake & Co., Charleston, S. C., or to WM. MAILLER, Decatur, Ala. 4 8*

BROOM MACHINERY. The most improved and durable machinery for the manufacture of Brooms, for sale by JACOB GRAY, Scotia, Schenectady Co., N. Y. Address post-paid. 4 8*

STEAM ENGINES FOR SALE.—One 8 horse-power engine, boiler, heater, and apparatus complete—price $750; one 5 horse two cylinder engine, with governor, pump, and band wheel—price $200; one 6 horse ditto (new) —price $225. Also, now finishing on hand, slide and hand lathes, upright drills, mortising machines, &c. Inquire of CARPENTER & PLASS, corner of Hester and Elizabeth streets New York. 4 4*

PROFESSOR ALEX. C. BARRY'S TRICOPHEROUS OR MEDICATED COMPOUND.—Professor Barry does not hesitate to put his Tricopherous, for the two grand requisites of efficacy and cheapness, against any preparation for cleansing, renewing, preserving, and strengthening the Hair, that has ever been advertised or offered for sale. He challenges the associated skill and science of the medical world to produce, at any price, an embrocation that will reduce external irritation, cure ordinary cutaneous diseases and severe cuts, sprains, pains, &c. Price 25 cents per bottle. To be obtained, wholesale or retail, of Mr. A. C. BARRY, 137 Broadway. 4 3m*

CLOCKS FOR CHURCHES, PUBLIC BUILDINGS, RAILROAD STATIONS, &c., and REGULATORS FOR JEWELLERS.—The undersigned having succeeded in counteracting effectually the influence of the changes of the temperature upon the pendulum, and introduced other important improvements in the construction of clocks, 2re prepared to furnish an article, superior in every respect (the highest grade warranted to vary less than two minutes in a year) to any made in the United States. Complete opportunity will be afforded to test their qualities. Glass (illuminated) dials of the most beautiful description furnished. Address SHERRY & BYRAM, Oakland Works, Sag Harbor, Long Island, N. Y.

"At the Oakland Works of Sherry & Byram there are made some of the finest clocks in the world."—[Scientific American.

"Mr. Byram is a rare mechanical genius."—[Jour. of Commerce. 5tf.

PORTER'S IMPROVED FORGE TUYERE—This Tuyere has proved itself the best in existence; the advantages that it possesses, if made use of, will add to the profits of the fire from 25 to 50 cents a day more than can be made on any other tuyere. With it the blast can ue regulated effectually and kept clear of clinkers, and it gives the smith every command of his fire that he can wish; it operates perfectly, is durable, and cannot be put out of order. A vast amount of evidence can be shown of its great superiority, from this city and elsewhere. I will sell the rights for counties or States, or to any man or set of men wishing to engage in a good speculation, I will sell the entire patent. Address ROBT. L. PORTER, Philadelphia Hotel, Jersey City. 5 3*

ENGINE AND HAND LATHE.—The undersigned, agents for the Guilford Manufacturing Co., offer, at low prices, for sale Lathes of various descriptions, from 2 feer to 20 feet shears, with or without Screwgear. BOYD & KEEN,
5 2* No. 11 Gold street.

A CARD.—The undersigned begs leave to draw the attention of architects, engineers, machinists, opticians, watchmakers, jewellers and manufactures of all kinds of instruments, to his new and extensive assortment of fine English (Stubs) and Swiss Files and Tools; also his imported and own manufactured Mathematical Drawing Instruments of Swiss and English style—which he offers at very reasonable prices. Orders for any kind of instruments will be promptly executed by F. A. SIBENMANN Importer of Watchmakers' and Jewellers' Files and Tools and manufacturer of Mathematical Instruments 154 Fulton st. 6 9*

SCRANTON & PARSHLEY, Tool Builders, New Haven, Conn., have on hand six 12 ft. slide lathes, 28 in. swing; also four 8 ft. do.; 21 in. swing, with back and screw gearing, with all the fixtures; one 5 ft. power planer; 12 drill presses, 4 bolt cutting machines, 30 small slide rests; 5 back geared hand lathes, 21 in. swing; 15 do. not geared; 8 do. 17 in. swing on shears 5 1-2 feet; 25 ditto with and without shears, 13 in. swing; counter shafts, all hung if wanted suitable to the lathes. Scroll chucks on hand; also index plates for gear cutting. Cuts of the above can be had by addressing as above, post-paid. 47tf

BEARDSLEE'S PATENT PLANING MAchine, for Planing, Tonguing and Grooving Boards and Plank.—This recently patented machine is now in successful operation at the Machine shop and Foundry of Messrs. F. & T. Townsend, Albany N. Y.; where it can be seen. It produces work superior to any mode of planing before known. The number of plank or boards fed into it is the only limit to the amount it will plane. For rights to this machine apply to the patentee at the abovenamed foundry—or at his residence No. 764 Broadway; Albany. GEO. W. BEARDSLEE. 5tf

TO PAINTERS AND OTHERS.—American Anatomic Drier, Electro Chemical graining colors, Electro Negative gold size, and Chemical Oil stove Polish. The Drier improves in quality by age—is adapted to all kinds of paints and also to Printers' inks and colors. The above articles are compounded upon known chemical laws and are submitted to the public without further comment.—Manufactured and sold wholesale and retail at 114 John st. N. Y. and Flushing L. I. N. Y.; by
QUARTERMAN & SON
48tf Painters and Chemists.

MACHINERY.—S. C. HILLS, No. 12 Platt-st. N. Y. dealer in Steam Engines, Boilers, Iron Planers, Lathes, Universal Chucks, Drills; Kase's, Von Schmidt's and other Pumps; Johnson's Shingle Machines; Woodworth's, Daniel's and Law's Planing machines; Dick's Presses, Punches and Shears; Morticing and Tennoning machines; Belting; machinery Beal's patent Cob and Corn mills; Burr mill and Grindstones; Lead and Iron Pipe &c. Letters to be noticed must be post-paid. 1tf

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers—from 1 1-4 to 7 inches in diameter. The only Tubes of the same quality and manufacture as those so extensively used in England Scotland, France and Germany—for Locomotive Marine and other steam Engine Boilers.
THOS. PROSSER & SON, Patentees,
1tf 28 Platt-st. N. Y.

LATHES FOR BROOM HANDLES, Etc.—We continue to sell Alcott's Concentric Lathe, which is adapted to turning Windsor Chair Legs, Pillars, Rods and Rounds; Hoe Handles, Fork Handles and Broom Handles.

This Lathe is capable of turning under two inches diameter with only the trouble of changing the dies and pattern to the size required. It will turn smooth over swells or depressions of 3-4 to the inch and work as smoothly as on a straight line—and does excellent work. Sold without frames for the low sum of $25—boxed and shipped with directions for setting up. Address (post-paid) MUNN & CO.
At this Office.

KELLY & CO., New Brunswick, N. J., Foundry and Machine shop, manufacturers of stationary Engines, India Rubber Machinery, Mill Gearing, and stove castings &c. Articles made in the machinery line to order with dispatch and in the most workmanlike manner. Parties wanting machinery or castings made will be waited on within any reasonable distance. Orders solicited. 47 12*

WOOD'S IMPROVED SHINGLE MACHINE—Patented January 8th 1850, is without doubt the most valuable improvement ever made in this branch of labor-saving machinery. It has been thoroughly tested upon all kinds of timber and so great was the favor with which this machine was held at the last Fair of the American Institute that an unbought premium was awarded to it in preference to any other on exhibition. Persons wishing for rights can address (post-paid) JAMES D. JOHNSON, Easton Conn.; or WM. WOOD, Westport; Ct. All letters will be promptly attended to. 37tf

LEONARD'S MACHINERY DEPOT, 109 Pearl-st. 60 Beaver N. Y.—The subscriber is constantly receiving and offers for sale a great variety of articles connected with the mechanical and manufacturing interest, viz.: Machinists' Tools—engines and hand lathes; iron planing and vertical drilling machines; cutting engines, slotting machines; bolt cutters; slide rests; universal chucks &c. Carpenters' Tools—mortising and tennoning machines; wood planing machines &c. Steam Engines and Boilers from 5 to 100 horse power. Mill Gearing—wrought iron shafting; brass and iron castings made to order. Cotton and Woolen machinery furnished from the best makers. Cotton Gins; hand and power presses. Leather Banding of all widths made in a superior manner; manufacturers' Findings of every description. P. A. LEONARD. 48tf

MANUFACTURE OF PATENT WIRE Ropes and Cables—for inclined planes, suspension bridges, standing rigging, mines, cranes, derick, tillers &c.; by JOHN A. ROEBLING; Civil Engineer—Trenton N. J. 47 1y*

RAILROAD CAR MANUFACTORY—TRACY & FALES, Grove Works, Hartford, Conn. Passage, Freight and all other descriptions of railroad Cars, as well as Locomotive Tenders, made to order promptly. The above is the largest Car Factory in the Union. In quality of material and in workmanship, beauty, and good taste, as well as strength and durability, we are determined our work shall not be unsurpassed. JOHN R. TRACY,
39tf. THOMAS J. FALES.

BEST CAST STEEL AXLES AND TYRES, (a new article,) for Railroad Carriages and Locomotives. The quality of this steel is sufficiently attestted in the announcement that it has carried off the first prizes awarded at the World's competition of 1851, in London. The axles are in general use on the Continent, and are now offered in competition with any other that can be produced; and to be tested in any way that may be desired by the engineers of the United States, either by impact or by torsion. This steel is manufactured by Fried Krupp, Esq., of Essen, in Rhenish Prussia, represented in the United States by THOS. PROSSER & SON, 28 Platt st., N. Y.
2tf.

TO ENGINEERS.—A new Work on the Marine Boilers of the United States, prepared from authentic Drawings and Illustrated by 70 Engravings—among which are those of the fastest and best steamers in the country—has just been published by B. H. BARTOL, Engineer, and is for sale at the stor of D. APPLETON & CO.,
1 12* 200 Broadwey.

© 1851 SCIENTIFIC AMERICAN, INC

SCIENTIFIC MUSEUM.

Oil Varnishes.

In these varnishes, as in spirit varnishes, almost every operator has his own receipts. So that it is only the general outlines of their composition that can be given.

Drying oil, or boiled oil, is one of the most common varnishes, and is used to mix with colors, partly as a vehicle, and partly to cause them to dry quickly. Linseed, or nut oil, is boiled with a very small proportion of dried white lead, litharge, saccharum saturni, or white vitrol, generally an ounce either of each article, or a proportionate quantity of several to the heat of oil. Sometimes the oils are merely left to stand upon litharge for a long time.

Oil varnishes for covering pictures are not much used, as they are not easily removed. They are mostly composed of gum mastic, various proportions of copal varnish, Canada balsam, and thinned with oil of turpentine.

The varnish used for bright armor and weapons, by our ancestors, was 3 lbs. of brown rosin, 2 lbs. of turpentine, dissolved in 10 pints of boiled linseed oil.

The engravers' varnish for covering copper plates, and preventing the acid used in etching from corroding the places wished to be left blank, varies much in its composition. The hard varnish used with Callot's aqua fortis is merely mastic dissolved by boiling in an equal weight of drying linseed oil. Le Bofe's soft varnish, which is that generally used in England, is made by heating 2 oz. of white wax, and adding to it, by degrees, first, 1 oz. of mastic in fine powder, and then 1 oz. of asphaltum, keeping it on the fire until all is completely dissolved. Mr. Lowry used 4 oz. of asphaltum, 2 oz of Burgundy pitch, and 2 oz. of white wax, melted together. The varnish called the soft ground is prepared by adding some veal suet to the soft varnish already described.

The French artists use gum benzoin instead of asphaltum, making their soft varnish of eight ounces of linseed oil, in which is dissolved one ounce of gum benzoin and white wax, and keep it on the fire till one-third is boiled away. For their hard varnish they add more white wax, so as to enable it to be made into a solid ball.

The superior clearness of copal to either shell lack or amber, gives it an advantage in varnishes and japan work; but the difficulty of dissolving it, either in oils or spirits, is very great. By grinding it with camphor, or by first melting it and letting it drop into water, it becomes more soluble.

The japanners' copal varnish is made by melting 4 lbs. of copal in a glass matrass, until the vapor condensed upon any cold substance, drops quietly to the bottom; then adding first a pint of boiling linseed oil, and afterwards about its own weight of oil of turpentine.

[For the Scientific American.]

Tobacco for Wounds.

I am not one of your regular correspondents, but I take it for granted that anything that is for the good of society is welcomed by you. I have seen a number of deaths reported from *Tetanus*, or lock-jaw, induced by wounds from nails and other iron instruments. The oxide of iron, when introduced into the flesh, by puncture of nails, &c., or cuts from rusty edge-tools, occasions the most intense pain, as I have experienced; many others have testified to the painful nature of such, though otherwise not dangerous wounds. Tobacco (abused by friend and foe as it is) will relieve the pain resulting from such wound, in ten or fifteen minutes, if properly applied; my mode has been to take a piece of good strong tobacco and chew it until it is saturated with saliva, and then apply it with a bandage. It has never, within my knowledge, failed to give relief, and I have seen it applied to wounds that were deep and painful. H. Van Ansdall.

Eaton, Ohio, 1851.

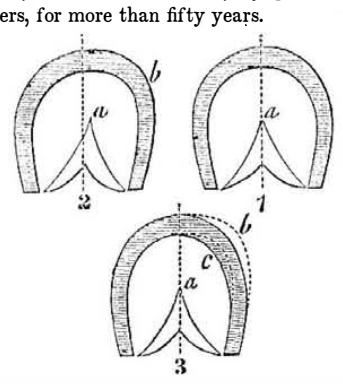
Tea on the Himalays.

There is a district in the East Indies called Kemaon, situated among the Himalays, to the north-west of Nepaul, some hundreds of miles from Assam. It is a portion of the province of Delhi, and extends to the country lately owned by the Sihks. Since 1842, tea nurseries have been planted and extended in this region, and the plant has thriven wonderfully, the proceeds being regarded as of the finest quality of black tea. After various experiments, it was found that the plants first imported were not of a character hardy enough for these heights in such a latitude, and a Mr. Fortune was engaged to go to the north-western regions of China and procure plants more likely to thrive. He succeeded, and returned with 12,000 living plants, an endless variety of seeds in a germinating state and eight tea manufacturers, so that the Himalayan valleys and slopes are likely to become tea gardens on a gigantic scale. Some samples of the produce were sent to the Exhibition at London, and the Company hope to offer it soon in the market at the usual prices of good Chinese teas.

On Interfering Horse-Shoes and the Remedy.

The following information respecting horse-shoes, and the remedy, is obtained of Mr. J. O. Proctor, No. 44 Duane street, this city, a practical and experienced blacksmith, and whose theory and practice, we are positive, are correct :—

"In the Scientific American of the 11th instant, there is an illustrated method of preventing horses from interfering, by Mr. Jewett. His theory is not a new one, but it is a wrong one, and calculated to do much mischief to all who do or may follow it. His plan never can prevent a horse that is in the habit of doing so from interfering with the forward feet, and the same treatment is required for them as for the hind feet. Mr. Andrews' mode, as spoken of in the article referred to, is much better, but the grand object, or rather remedy, to be provided, is to make the feet of interfering horses natural, that is the foot which strikes, for in most cases only one foot is liable to do this. The method which I present has been practiced in Boston, and other places, with marked success, by good horse-shoers, for more than fifty years.



In the accompanying engravings figure 1 is an interfering foot, figure 2 is a natural foot, and figure 3 is the interfering foot operated on to cure the evil. In the interfering foot, figure 1, the toe, *b*, inside projects beyond the other side a greater distance from the line, *a*, drawn through the centre of the foot. The remedy for this is not by projecting the shoe, but cutting away the projection of the foot, as shown by the dotted lines. In summer the foot should stand level, but in winter it may be treated as suggested by Mr. Andrews. The horse is just the same as a man, in respect to the action of his feet; the throw of the foot is as the projection of the toe, and as the heel is inclined; and if the boots of a man when worn down on one side on the heels, prove the easiest to wear, then so will it be with a horse—and this would prove Mr. Jewett's theory to be correct; but everybody knows the reverse to be the fact. In remedying the defect of an interfering foot, by cutting away, the skillful blacksmith uses his judgment regarding the amount to be cut. It may be that the hoof will not allow a sufficient quantity to be pared off instantly to cure the evil at once, but by trimming off a certain quantity at one time, and a little more some time afterwards, the foot of any horse can be shaped according to the will of the blacksmith. It is the same with our finger and toe-nails. Figure 2, therefore, shows the hoof cut away a little more towards the centre line, and the inside, *c*, forms a smaller radius than the other side, as the horse, having formed the habit of interfering, will still have an action of the foot to do so; but by this the proper treatment I have set forth, it will be remedied by proper attention in time, and remedied permanently, too. J. O. Proctor, Machinist."

New York.

Rheumatic Fever Treated with Acetate of Potash.

In "Braithwaite's Retrospect" there is a very interesting account of the treatment of rheumatic fevers with the acetate of potash, by Dr. Golding Bird: he mentions a case of a girl, 16 years of age, who traced her attack to sleeping in a kitchen under-ground. The left limb and shoulders were attacked, and she labored under inflammation in various joints. She was in a very bad state when brought to him; he ordered twenty-five grains of the acetate of potash to be taken every fourth hour, in a camphor mixture, and eight grains of Dover's Powders were taken every night. The patient was much better on the third day; the medicine was continued, and on the seventh day the ankles were free from pain, and she was greatly improved. On the fourteenth day she was free from pain in every joint. To each dose of the acetate of potash, taken every four hours, four grains of the ammonia citrate of iron were added, when, on the 21st day, she was quite well. Another case was that of a woman 29 years of age, who had rheumatic fever caused by getting wet. She was very ill, and her shoulders and wrists were much swollen and very painful; she was treated in the same way as the other, only the doses were a little larger. On the third day she was much relieved; on the sixteenth day all the joints were well; the patient then took two grains of the bisulphate of quinine three times a day, and was soon quite well.

Treatment of Rheumatism by Lemon Juice.

Dr. Rees, of Gray's Hospital, London, is of opinion that lemon juice is very excellent for chronic rheumatism of the gouty order. By using lemon juice along with small doses of the tincture of the sesquichloride of iron, he has, in several cases, effected cures which had baffled every attempt made before for that purpose. In one case, a lady who had been a cripple for several years, was eventually restored, after persevering in the use of the lemon juice for eight weeks.

The doses used are from one to two ounces every six hours.

Medical Properties of the Skull-Cap.

C. H. Cleveland, M. D., in an article in the N. J. Medical Reporter, states that he has received a letter from Ariel Hunter, M.D., giving his experience of the above named herb for the cure of nervous disorders. He has been in the habitual use of this herb (scutellaria laterifolia) for fifteen years. The herb is well known as the blue-side flowered scull-cap, which he considers superior to valerian—a well-known herb which has been used in medicine almost from time immemorial. In very severe cases he has ordered a pill of the extract of stramonium of half the size of a wheat grain, and of a strong infusion of scull-cap, a large tea-spoonful every hour, which has proved very effectual. For cholera it has been uniformly successful.

Iowa Coal Field.

Dr. Owen, the geologist, who surveyed this State, By order of the United States Government, stated before the American Scientific Association, in reference to the deposites of Iowa, that between Johnson and Iowa Counties, an uplift of carboniferous sandstone is encountered, which is probably near the eastern limits of the Des Moines coal field. The Iowa river meanders near the eastern margin of the coal, but the seams presented on the river are of inferior quality. It is upwards of two hundred miles in the direction of the valley of the Des Moines across the great coal fields. Westwardly it extends from the Des Moines River nearly across the State of Iowa. The entire area of this coal field in Iowa alone cannot be less than twenty thousand square miles, in all embracing a country nearly equal in extent to the State of Indiana.

He estimates the beds of coal to be one hundred feet in thickness, and lying near the surface, they must be capable of being worked easily and at small expense.

Iowa is destined to be one of the greatest States in the Union, as it possesses a fine climate, a fruitful soil, and has abundance of useful minerals within her bosom. Her population thus far are of a good class to lay the foundations of an intelligent moral and industrious comunity. Her coal fields alone are enough to make her great at some future day.

LITERARY NOTICES.

S. Lablache's Complete Method of Singing.—This is a work just published. for developing the voice and rendering it flexible, with examples for illustration and exercise for singing, by Louis Lablache, a celebrated French teacher. this being a translation of his French work. This is a work of no doubtful merit, but of real sterling quality; it contains a number of new exercises for sustaining the voice. It is for sale by Oliver Ditson, and Clapp & Co., Boston, and J. E. Gould, Broadway, this city.

Trautwine on Railroad Curves.—A masterly work, by John C. Trautwine, the eminent Civil Engineer on "The Field Practice of Laying out Circular Curves for Railroads," has just come forth from the printing press of Messrs. Barnard & Sons, Philadelphia. The work is well printed on good paper, and bound in morocco with a flap and pocket, rendering it very suitable for the pocket, as all such works should be. This work will form a very desirable Vade Mecum to Civil Engineers, especially the younger gentlemen of the profession. There is a table of Natural Sines and Tangents to single minutes, in a very portable form, and got up with the most scrupulous care, so that it is absolutely reliable. The method of laying out a curve, by tangential angles, is illustrated and described; also a method by means of "deflexion angles," and a method to do so by the eye, &c. This is a really good work, and we heartily recommend it to our Civil Engineers.

Hints and Helps to Health and Happiness, by Dr. John H. Ross, Amity street, New York: published by Derby & Miller, Auburn, N. Y.—It would be difficult to catalogue all the various publications issued annually from the American press, which are devoted to a popular exposition of the causes of ill health so prevalent in this country. In most of these publications extreme views are urged, which do not meet the general feelings of the people. The work before us occupies medium ground, and the author presents our failings and the remedy in a new and, we should think, sensible manner. The work is unexceptionable in language.

White's Church Melodist.—This is one of the best compositions of sacred music we have seen,—the collection includes many of the finest old standard tunes, whose tones, familiar to us of old, breathe a spirit of devotion, falling upon the ear in cadences so soft and sweet, that the expanding soul revels, as it were, in the regions of a higher bliss: the very choicest gems of the old style appear to have been culled and arranged in this collection, which alike abounds with a variety of original music of the highest order, consisting of tunes, sentences, chants, anthems, &c. The arrangement is by E. L. White, editor of the "Modern Harp," "Boston Melodeon," &c. &c. There is no collection more generally or better adapted to social and religious worship, societies, singing schools, &c. It is published by J. E. Gould and Co., New York.

Messrs. Dewitt & Davenport have sent us Peterson's Magazine for November; it is a good number. Also, "The Game Cock of the Wilderness, or the Life of Dan Marble," a pleasant and mirth-provoking publication. Price 50 cents: pp. 235; several illustrations.

New Music.—"Home, I feel, is Drawing Nigh," for two voices; poetry by G. Soane, Esq., music by E. T. Loder. "The Hour of Parting," duett; words by Elizabeth Anne White; music from "I Capulette I Montechi," by Sig. Bellini. "First Violet," by Walter Powell, music by Mendelssohn. "Bertha Walter, composed by Charles Voss. Published by Oliver Ditson, Boston, and J. E. Gould & Co., N. Y.

NEW PROSPECTUS TO MECHANICS, INVENTORS, AND MANUFACTURERS.

SEVENTH VOLUME OF THE

SCIENTIFIC AMERICAN.

MESSRS. MUNN & CO.,

AMERICAN & FOREIGN PATENT AGENTS,

And Publishers of the SCIENTIFIC AMERICAN, respectfully announce to the public that the first number of VOLUME SEVEN of this widely circulated and valuable journal was issued on the 20th of September in AN ENTIRE NEW DRESS, printed upon paper of a heavier texture than that used in the preceding volumes.

It is published weekly in Form for Binding, and affords, at the end of the year, a SPLENDID VOLUME of over FOUR HUNDRED PAGES, with a copious Index, and from FIVE to SIX THOUSAND *ORIGINAL ENGRAVINGS*, together with a vast amount of practical information concerning the progress of INVENTION and DISCOVERY throughout the world. There is no subject of importance to the Mechanic, Inventor, Manufacturer, and general reader, which is not treated in the most able manner—the Editors, Contributors, and Correspondents being men of the highest attainments. It is, in fact, the leading SCIENTIFIC JOURNAL in the country.

The Inventor will find in it a weekly *DIGEST* of *AMERICAN PATENTS*, reported from the Patent Office,—an original feature, not found in any other weekly publication.

Terms—$2 a-year; $1 for six months.

All Letters must be Post Paid and directed to

MUNN & CO.,

Publishers of the Scientific American,

128 Fulton street, New York.

INDUCEMENTS FOR CLUBBING.

Any person who will send us four subscribers for six months, at our regular rates, shall be entitled to one copy for the same length of time; or we will furnish—

Ten Copies for Six Months for	$ 8
Ten Copies for Twelve Months,	15
Fifteen Copies for Twelve Months,	22
Twenty Copies for Twelve Months,	28

Southern and Western Money taken at par for subscriptions, or Post Office Stamps taken at their full value.

© 1851 SCIENTIFIC AMERICAN, INC